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A study of the school building needs of Leverett, Massachusetts.

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A STUDY OF THE SCHOOL BUILDING NEEDS
OF EVERETT, MASSACHUSETTS

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A STUDY OF THE SCHOOL BUILDING NEEDS
OF LEVERETT, MASSACHUSETTS

BY
FRANCIS GERALD CIARFELLA

R3487

A problem submitted in partial fulfillment of the
requirements for the Master of
Science Degree

University of Massachusetts

1956

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CHAPTER I
INTRODUCTION

CHAPTER I

INTRODUCTION

Background -- The 17th Annual Report of the Board of Education, Massachusetts 1854, presented a criticism of the school houses then in use. The typical school of the period had inadequate lighting, insufficient ventilation, insufficient blackboards or blackboard space, poor heating facilities, inadequate toilet facilities, inadequate or no water facilities, inadequate means of exit, insufficient floor area for the number of pupils housed, inadequate playground area, and the school was poorly located. Of over five hundred schools inspected, none were found to be satisfactory¹. on the basis of the standards of the Board of Education 1854.

At the time of the report of 1854, Leverett supported eight school houses of one room design. The town ranked 298th of 325 towns in the amount appropriated per child between the ages of 5 years to 15 years attending school during the school year 1852-1853. The appropriations for public schools of Leverett were far below the median for the state. Thus, it may be assumed that the school houses of Leverett were at best typical of the school houses of that period, and at best, inadequate in the eyes of the Board of Education of 1854.

A new school was constructed by the Town of Leverett in 1890. This was a one room building which provided little

1. 17th Annual Report of the Board of Education, The Commonwealth of Massachusetts, 1854, pp.72-79



PLATE I

Leverett School, 1890 - 1950

more than newness of materials and failed to meet the standards presented by the Board of Education of 1854. This school, shown in Plate I above, was not only the last school constructed in Leverett during the 19th century, but was the last school to be constructed in Leverett for the following sixty years.

The 70th Annual Report of the Board of Education, Massachusetts 1905-1906, presented a commendary on the advances made in school housing facilities in Massachusetts during the latter part of the 19th and early 20th century.

This commendary could not be applied to the school houses of Leverett, for there had been little or no change in the type of facilities provided. It may be pointed out, however, that the school houses of Leverett were now no longer typical of the school houses of the period, and were considerably lower in standard than ever before.

During the period from 1850 to 1900, the number of classrooms in use varied somewhat, eight being the maximum. After 1900, the maximum number of classrooms in use was six, until 1930 at which time five became constant for the following twenty years.

Move Toward New Construction -- In 1933, Edwin J. Harriman, in his Report of the Superintendent of Schools, recommended construction of a consolidated school, under the National Reconstruction Act. By that time, a number of the school houses of the Town had fallen to disuse and in order to provide classrooms, two structures which were not Town property had been converted to classroom use. The feasibility of a six year high school was suggested in 1934 by Superintendent of Schools Harriman. A committee was appointed in 1934 at the Annual Town Meeting to consider the advisability of providing a central school for all elementary pupils in Town. This committee reported unfavorably, and therefore no constructive action was taken towards providing adequate classroom facilities. That a definite need existed for new construction is evident by the School Report

for 1935, in which the Superintendent of Schools Edmund R. Sawyer stated, "The number of pupils in our schools is increasing. Several rooms are now taxed to capacity."

From 1935, no further recommendations or action was taken until the 1944 School Report, in which Mr. Edwin A. Cox, Superintendent of Schools, suggested, "Perhaps it would be wise to include in the postwar plans of the Town of Leverett, plans for an up-to-date consolidated school building." In the following year, 1945, Mr. Cox again reminded, "and once more I should like to emphasize the need for a modern consolidated school for the pupils of Leverett." By this time the existing school houses had become subject to condemnation by the state building inspectors and were operating on temporary building permits.

Special Investigating Committee of 1946 -- Action was taken by the people of Leverett at the Annual Town Meeting, February 4, 1946, at which time it was voted that a committee of five be elected to investigate the matter of building a consolidated school building. The Special Investigating Committee presented its final report which was approved and accepted at a special Town Meeting on December 17, 1946. In this report, the Committee stated its objectives had been:

1. To determine the type and technical requirements of the building needed for school purposes.
2. To investigate other desirable uses for the building.
3. To determine what requirements the building site should have from the standpoint of:

- a. location,
- b. physical characteristics from the standpoint of drainage and exposure,
- c. playground facilities,
- d. transportation of pupils.

The Committee presented a statement of conclusions reached and made the following recommendations:

1. We recommend that the selectmen of Leverett be instructed to purchase the following described site for a sum not to exceed \$1500, and that this purchase be made as soon as possible. ... This tract of land consists of about nine acres. ...
2. We recommend that a consolidated school building committee be established, this committee to consist of five elected members, the selectmen, and the superintendent of schools.
3. We recommend that the Consolidated School Building Committee be instructed to hire an architect to draw up and submit to them suitable plans for a Consolidated School in Leverett. ...
4. We recommend that no work be started on a Consolidated School Building in 1947 for the following reasons:
 - a. Inflated costs,
 - b. Pending possible state legislation granting towns under 5000 population an amount not to exceed \$30,000 toward the cost of consolidated school building.
 - c. Federal Recess Commission is working on proposed legislation for the next Congress that may help rural communities finance new school construction.
5. We recommend that the selectmen be instructed to confer with the State Senator for this district and with him draw up a bill to be submitted to the next General Court prior to January 1, 1947, seeking permission to borrow outside our debt limit, the amount not to exceed \$16,000.

6. We recommend that the selectmen make application to the proper Federal Authorities for a sum of money to cover cost of drawing up school plans. ...
7. We recommend that when final plans have been approved by the Consolidated School Building Committee that a warrant be prepared and submitted to either a regular or special town meeting, as deemed advisable, for any action thereon.

At this Special Town Meeting of December 17, 1946, the townspeople voted to continue the Special Investigating Committee with the selectmen and the superintendent of schools as a Consolidated School Building Committee. The Committee was instructed to hire an architect. An appropriation was made for the purpose of purchasing the school site which had been selected by the Special Investigating Committee. The selectmen were instructed to carry out the recommendations, numbered five and six stated above, which dealt with seeking permission to borrow outside the debt limit of the Town and with application to Federal Authorities for a sum of money to cover cost of drawing up school plans. In addition, a blanket acceptance of the above seven specific recommendations of the Special Investigating Committee was voted.

The Consolidated School Building Committee -- The first report of the Consolidated School Building Committee was presented at a special Town Meeting on June 17, 1947. It was reported that the recommended site had been purchased for the sum of \$1250. Mr. Bernhard Dirks, architect, had been hired. Mr. Dirks had submitted preliminary plans for

a consolidated school building, and had been instructed to complete the plans for final approval. The General Court had passed favorably on a petition to permit the Town of Leverett to borrow outside its debt limit. The Emergency Finance Board of the Commonwealth of Massachusetts had approved the application filed with the Federal Works Agency for a sum of \$3000 to cover the advance plans for a consolidated school and an initial advance of \$1500 had already been received by the Town of Leverett.

At a Special Town Meeting on August 20, 1948, it was voted to, "authorize the selectmen to proceed in accordance with recommendations of the School Building Committee, namely:

1. Make application to the commission known as the School Building Assistance Commission,
2. Check the State Audit to determine whether \$51,000 is available in free cash and with the aid of the Senator Ralph C. Mahar, prepare a bill petitioning the legislation to amend or increase the existing enabling act for \$16,000 by \$109,270, the anticipated state aid, making a total of \$125,270.

In the following year, at the special Town Meeting of August 6, 1949, it was voted to accept the final report of the Consolidated School Building Committee and to raise and appropriate \$196,490 for the purpose of constructing a consolidated school building on land owned by the Town. The Consolidated School Building Committee was authorized to enter into all necessary contracts and carry out the construction, furnishing, and equipping of the school.

Acceptance of the Leverett Consolidated School -- The Consolidated School Building Committee completed its responsibilities by carefully supervising the construction of the school. Before the year 1950 had passed, the Leverett School Committee accepted the building for the Town and appropriate dedication ceremonies were held. The doors of five condemned rural school houses of another era were closed, and in September 1950, the pupils of Leverett entered into a building which offered facilities for a modern up-to-date educational program.

Although many years had passed since the first recommendations were made for the construction of a consolidated school, Leverett could not necessarily be criticised as being unusually slow in assuming its responsibilities in comparison to many other communities. The New England School Development Council publication Conducting A School Building Program stated, "For many years the practice of Superintendents of Schools presenting needs in annual reports to School Committees has been common, and it has been common for the requests to be ignored. It could be said that only when some very critical situation arises does the average community assume its duty and take action."¹.

The new Leverett Consolidated School stands as evidence that in Leverett, the community did take action, which al-

1. Davis, L.B., Conducting A School Building Program, June 1947, New England School Development Council, Cambridge, Massachusetts; p.v

though slow in coming about, is worthy of praise. Like many communities throughout the country, Leverett had finally faced the problem of school building needs which had been put aside year after year and then relaxed in the satisfaction of a job well done.

CHAPTER II
THE PROBLEM

CHAPTER II

THE PROBLEM

Statement of the Problem -- The elementary school pupils of Leverett had entered a new consolidated school building in September 1950. By 1953, in less time than required for planning and constructing the Consolidated School, it became evident that an apparently unforeseen increase in enrollment had caused a serious overcrowded condition in the grades 1-2 classroom. Those close to the operation and the administration of the school could not ignore the increased enrollment in the school, especially at the primary grade levels.

During the school year 1953-1954, there were 52 pupils enrolled in grades 1-2 which were housed in one classroom. In order to relieve the teacher-pupil load in this classroom, a second teacher was made available for this group. This led to the supervision of one classroom by two teachers. This did not prove to be a satisfactory solution to the problem, although it did lessen the problem to some degree.

It was estimated from a survey of five year old children living in Leverett that the condition would continue during the 1954-1955 school year. A second teacher was again assigned to the overcrowded grades 1-2 classroom. It was later found advisable to assign each teacher a grade and make use of temporary classroom facilities on a modified platoon system type plan for these grades. This plan provided for the use of the auditorium as a classroom. Tables

were provided instead of desks for pupil use. This temporary unit and one classroom were used alternately by grades one and two. This appeared to be a more satisfactory plan, but one which could only be considered acceptable on a temporary basis. In addition, it was assumed that the grade 3-4 classroom would also have an enrollment of approximately fifty pupils by the school year 1955-1956.

Thus this study was initiated in order to determine what action may be taken by the citizens and/or the school officials of the Town of Leverett to provide a solution to the problem of overcrowded classroom conditions arising from increased enrollment in the Leverett Consolidated School.

Objectives of the Problem -- The initiation of the study may be considered to have a three fold purpose:

1. To help bring to the attention of the community the serious problem of overcrowding which faces them and to awaken them that action may be begun within the community and by the citizens of the community. This to be brought about by the process of the study itself and the action and steps which are necessary to such a study.
2. To make available information, facts, and findings which may be of value to any group appointed or elected to make a study of the problem of school housing in Leverett and thus help to hasten the in-

vestigation so that an early conclusion may be arrived at.

3. To determine the solution or solutions to the problem as stated.

Materials and Procedure -- In order to determine what action may be taken to provide a solution to the problem, it will first be necessary to determine the extent of the problem. Thus, a survey will be made the basis for the study. A comprehensive survey can be of benefit economically as well as educationally by a long range program which may avoid wasteful construction and establish a sound foundation of teaching facilities which may best serve the community. The survey will provide a means of determining the present and probable future school housing needs of the Town of Lev-
erett. As a consideration of all factors involved in a problem of this type is desired, guides for planning, evaluating or conducting surveys of school buildings and needs will be analyzed and studied. In addition, reports of other school housing surveys will be examined, as these materials may serve as a guide and checklist of general or specific problems which may arise during the survey or which may require consideration.

This study will include a survey of the present school plant, which is to be made with the purpose of determining the exact nature of the present facilities, their description, suitability, limitations, and costs, with attention

to the possibilities of alterations or additions to provide suitable housing for additional enrollment or needs. Community needs and the desirable school program, as it applies to present and probable future school plant needs will be given consideration. The survey will require the availability of blue-prints or diagrams of various aspects of the present school plant, Town Reports, Records of Town Meetings, Reports or information from persons concerned with the planning of the educational program, school construction costs data for this and other school buildings.

An analysis of population trends, birth trends, and housing construction will be included in this study, as these are factors which obviously have a direct bearing on school enrollment. Federal, State, and local census figures will be obtained for this study. Assessors information will provide the necessary housing data. Town Reports and school attendance registers will serve to provide the necessary data concerning enrollment, which will be analyzed and projected by means of acceptable statistical techniques. Projections, of course, are calculated predictions which are subject to fluctuations as local conditions change. As Leverett is a small community, fluctuations in local conditions will be greatly magnified. However, as long range planning requires prediction of future trends or conditions, this study will include the necessary projections.

The fiscal potential of Leverett in relation to its

school housing needs will also be analyzed. Information for this analysis will be obtained from Assessors records and Town Reports. Consideration will be given to the taxable wealth of the Town, Bonded indebtedness, and State or Federal Aid, in addition to other factors which may have a bearing on this particular phase of the study.

The work of any groups or committees which may be formed or organized by the town officials, citizens, and/or school officials will be included in this study to such an extent as the scope of this study permits.

As the present school houses a 7th and an 8th grade, and because there is a trend throughout the state toward the establishment of regional high schools on the grades 7 - 12 level, and because regionalization is a possible conclusion to the problem, consideration and attention will also be given to the possibility of Leverett taking part in such a regional group and the action of the Town towards that end. Again, the progress which may be made toward regionalization will be reported in this study to such an extent as the scope of this study permits.

Finally, a summary of the study will be presented with a statement of any recommendations and/ or conclusions which may be reached. The conclusions or recommendations which result may be one of the following possibilities:

1. Construct an addition to the present school plant.
2. Make alterations within the present school plant.

3. Reorganize the grouping of grades
4. Continue any temporary arrangements already made.
5. Construct an additional school plant
6. Make use of old school buildings or other town buildings.
7. Construct an additional school plant for grades 7-12 in cooperation with a regional school group.
8. Carry on a double sessions program.
9. Any combination of the above.

In the event that an addition or other construction is recommended, the probable costs and the methods of financing will be determined.

CHAPTER III

PRESENT SCHOOL PLANT

CHAPTER III

PRESENT SCHOOL PLANT

Educational Program To Be Served -- A school plant

houses more than pupils alone, it houses an educational program. It must be planned, then, in the light of the educational program for which it is intended. The educational program to be served by the Leverett Consolidated School is implied or stated in part in the Final Report of the Special Investigating Committee on the Consolidated School, of 1946.

In this report, the Committee stated, "The site must be large enough to be able to locate the building back from the street, furnish adequate playground area and ample parking area to accommodate buses while loading; also sufficient space for private cars belonging to individuals who may attend school functions or community programs. The site should be in a sheltered location with grade sufficient for septic sewage disposal.

The building should consist of four classrooms, each room to care for two grades; have modern toilet facilities with running water furnished by an artesian well; also a large sublevel room with at least half-window exposure and preferably full window exposure on two or more sides.

The sub-level room would furnish space for:

- a. A heating plant and janitor's storage room,
- b. A cafeteria-kitchen and dining room,
- c. A play area for use in bad weather,
- d. Social recreational facilities for adult groups,

Boy Scouts, Girl Scouts, 4H Activities, etc.

In addition, a teachers room and a clinic room for pre-school and school age clinic will be needed.

If cost is not prohibit, we feel an auditorium to seat 300 would be a great asset. We found many schools with combination auditorium and gymnasium. This permits general assemblies of pupils for various educational purposes such as visual aids, musicals, public speaking, plays, and graduation exercises. We think an auditorium could be used for adult programs of various types that would tend to centralize and unify the civic life of the community.

The playground should be large enough for separate play areas for boys and girls. Space big enough to accommodate a baseball diamond would be desirable from both school and community viewpoints.

We have been fortunate in having good teachers, but if vacancies should occur, it would be easier to attract high grade teachers with a modern consolidated school."¹.

Attention to the preceding report and to the actual plant provided indicates that this community desired a modern well rounded educational program and a functional plant serving school and community programs. The school is to provide recreational facilities for children, during or after school hours, and for adults. The school shall serve as a

1. Records of Special Town Meeting, Final Report of Special Investigating Committee, December 17, 1946; Leverett, Mass.

meeting place for community groups. Facilities are desired for a school and community health program. The school plant is to consist of a consolidated unit in order to serve more efficiently than several smaller units. The school is to serve the educational and social needs of children of grades one to eight.

Site -- The present school plant is located on Montague Road and is reasonably accessible from all parts of the community. It is centrally located geographically and on the basis of population. Although located on one of the better roads of Leverett, traffic is light and involves no extreme traffic hazards.

The site is remote from places having undesirable influences on youth. This criteria was not difficult to overcome, as there are few, if any, such places in Leverett. The area is free of noise, smoke, and odors. The general area is attractively landscaped and well maintained. The site is not near business or industrial areas.

The site consists of nine acres, which is ample for a school serving many more pupils. The building, although "L" shape, set back from the road and bordered by lawn and parking areas, leaves ample play and recreational area.

At the present time, there is a large area or areas which are not suitable for use during or following wet weather as a result of poor drainage in these areas. There is little evidence of erosion, however, and the soil supports

good turf.

Building -- The form and architecture of the building is attractive and pleasing, as shown in Plate II below. Additional rooms could be added without destroying the balance, but it is stated that the heating system would only accommodate two additional rooms.



PLATE II

Leverett Consolidated School

The structure is strong and stable with sufficiently strong exterior and interior walls. Interior and exterior walls are free from cracks and perfectly water tight. The roof is weather proofed with slate and is in good condition.

Exits are more than adequate in number, size, type and location. All doors operate easily and are provided with panic bars where needed.

The building is of brick with some natural wood frontage which aids in making the school "belong" in the area. Large window and glass brick construction is incorporated in the design.

There is one stairway within the building. It is of an acceptable narrow width and is provided with a handrail. The one main corridor in the building is attractive, well lighted, and safe.

Service Systems -- The heating and ventilating system provides continuous automatically controlled heat. Each classroom is provided with a thermostat which operates the temperature control of the individual classroom uni-vents. Air is drawn into each classroom from outside and heated to the desired temperature as it passes through the uni-vents. Each classroom is provided with suitable exhaust vents, which operate continually during school hours. Corridors and special rooms are provided with standard steam radiators enclosed by a hood and provided with damper controls. The cafeteria and auditorium-gymnasium are served by a forced ventilation and heating system. The system is entirely draft free except in the cafeteria. The heat is provided by the burning of a heavy grade, economical oil in a low pressure steam boiler which is entirely satisfactory for the present plant and has been declared suitable for an additional two classrooms.

Artificial Lighting -- The natural lighting of the

class rooms and other areas is as adequate as present day design and sunlight can provide by using large windows and glass block areas. The classrooms are provided with three banks of double fluorescent units, which provide an even illumination on days of unfavorable cloud conditions. If desired, the two inside banks of lights may be operated independently of the outside bank. Two independently operated fluorescent units provide artificial light for the clinic room. All other areas are provided with incandescent units of suitable design and intensity. The stage is provided with variable intensity overhead flood lights.

Toilet and Sewer System -- The grades 1-2 classroom and the grades 3-4 classroom are provided with one toilet each for boys and one toilet each for girls. Pupils of grades 5-8 are required to pass to the ground floor for toilet services where locker room, shower, and toilet facilities are provided for both sexes. All toilet equipment is of suitable size for pupils served.

A septic tank sewage system is maintained by the present school plant and it has been entirely satisfactory. All pipes are reasonably accessible for repair. Ground surfaces over the outside sewage pipes are of turf.

Fire Protection -- The school plant is of extremely fire resistant design. Only trim finish, floor finish, sash, doors, and furniture are combustible.

Each classroom has two means of exit. The auditorium

and the cafeteria each have three means of exit. All pupils may walk to the outside street level without the use of stairs. Fire stops or doors are provided as required by law.

Non-automatic fire fighting devices in the form of manually operated fire extinguishers of the soda-acid type are provided throughout the building. A carbon dioxide extinguisher is located in the boiler room and is accessible for use in the kitchen. A manually operated alarm system, of buzzer type, may be operated by wall mounted fire alarm switches located on each floor.

Electrical System -- Proper current is provided where needed by means of a suitably controlled and fused system. An efficient arrangement of outlets is provided in classrooms and in all other areas, and has proven satisfactory and convenient at all times. An auxiliary power unit is located in the building and is of sufficient size and wattage to provide current for the stove or emergency light for all parts of the building. An automatic emergency lighting system, operated by batteries, is provided in the cafeteria and in the auditorium. This system, which is required by law, demands considerable maintenance and care.

A bell system which is operated manually from the grades 7-8 classroom is provided.

The school is served by one outside phone and no inter-communication system. The phone is located in the clinic

room and in a position by the door so that it can not be placed permanently on a desk or other work surface. Persons using this phone must stand during a call. At least one classroom door must be kept open during the school day so that the bell signal can be heard. Telephone signaling in the area is done by selective ringing as only eight party lines are provided.

Classrooms -- Most authorities agree that a modern educational program requires classrooms which provide at least 30 square feet of actual classroom floor space per pupil. Many authorities feel that 40 square feet of classroom area per pupil is a more desirable standard for the modern program.

The Leverett Consolidated School houses four classrooms, of which the dimensions are shown in Table I presented on the following page. On the basis of the minimum recommended standard of 30 square feet per pupil, classroom number one is of sufficient size to accommodate 25 pupils, classroom number two will accommodate 25 pupils, classroom number three will accommodate 33 pupils, and classroom number four will accommodate 26 pupils. Thus the maximum enrollment for the present plant is 111 pupils distributed as here-in stated.

Ralph D. McLeary explains in his Guide For Evaluating School Buildings that during the 1920s and the 1930s, there was a tendency to make classrooms as small as possible

TABLE I

Dimensions of Selected Areas
Leverett Consolidated School

Unit	Dimensions	Area square feet
Classroom Number 1, Gr. 1-2	32'6" x 23'2"	753
Activity Area	13'0" x 11'6"	150
Coat Room and Passage	12'6" x 12'0"	222
Lavatories, Two	4'0" x 4'0"	32
Classroom Number 2, Gr. 3-4	33'0" x 23'2"	764
Passage and Cloak Area	13'6" x 6'0"	111
Activity Area	14'10" x 10'0"	148
Lavatories, Two	4'0" x 4'0"	32
Classroom Number 3, Gr. 5-6	42'0" x 24'0"	1008
Classroom Number 4, Gr. 7-8	35'0" x 24'0"	840
Clinic Room	19'6" x 11'0"	214
Teachers Room	19'6" x 10'0"	195
Cafeteria	43'0" x 30'0"	1290
Kitchen	25'6" x 9'6"	242
Boiler Room	24'0" x 14'0"	336
Total Main Floor Area		6280
Total Sub-Level Floor Area		9535
Total Floor Area - School		15,815
Total Classroom Area, excluding activity area		3365
Total Classroom Area, including activity area		3663

chiefly as a device to keep the teachers from becoming overloaded with too large classes. It is believed that this device was a major factor in the prescribed classroom of 22-23 feet wide and 29-30 feet long, as such a size would only accommodate five rows of seven desks, thus making it impossible to assign more than 35 pupils to a teacher. He amends this to explain that in actual practice, the device of classroom size did not prevent the moving in of additional desks into the corners, but it did serve to keep the teacher from being loaded with 45 to 50 pupils.¹

In the Leverett Consolidated School, the classroom size is reasonably close to the above prescribed size. Since the 1920s and the 1930s, the movable type desk has practically replaced the screwed down desk. Thus, a variety of arrangements are possible. This is a desirable factor, except in a situation of overcrowding, for it is likely that many communities have discovered that one can almost always set another movable type desk into a classroom as has been done in the grades 1-2 classroom of Leverett. This discovery leads to overloading the teacher up to and beyond the 45 or 50 pupils, and as in the case in this school, 53 pupils were accommodated in a classroom ideally suited for a maximum of 25 pupils. A view of this classroom is shown in Plate III presented on the next page. This, of course, is

1. McLeary, R.D., Guide For Evaluating School Buildings, March 1949, New England School Development Council, Cambridge, Massachusetts, p.45



PLATE III

Grades 1-2 Classroom, Leverett Consolidated School

not the type of flexibility we look for in elementary schools.

With a limited number of pupils, the classrooms become fitting examples of acceptable modern classrooms suited to a modern educational program. Each classroom has a sink, shelves, work surfaces, storage space, glass brick upper fenestration, ample forced ventilation, adequate lighting, pleasing color schemes, acoustically treated ceilings, asphalt tile flooring, green colored chalk boards, sufficient bulletin board space, modern and suitable furniture and fixtures, and all designed where necessary or practical in the proper size for the child's use.

Special Rooms -- A multipurpose room serves as an auditorium and gymnasium. It is so located, see Plate IV, below, that activities may be scheduled without disturbing regular classes as there is sufficient sound absorption and separation between the classrooms and the multi-purpose room.

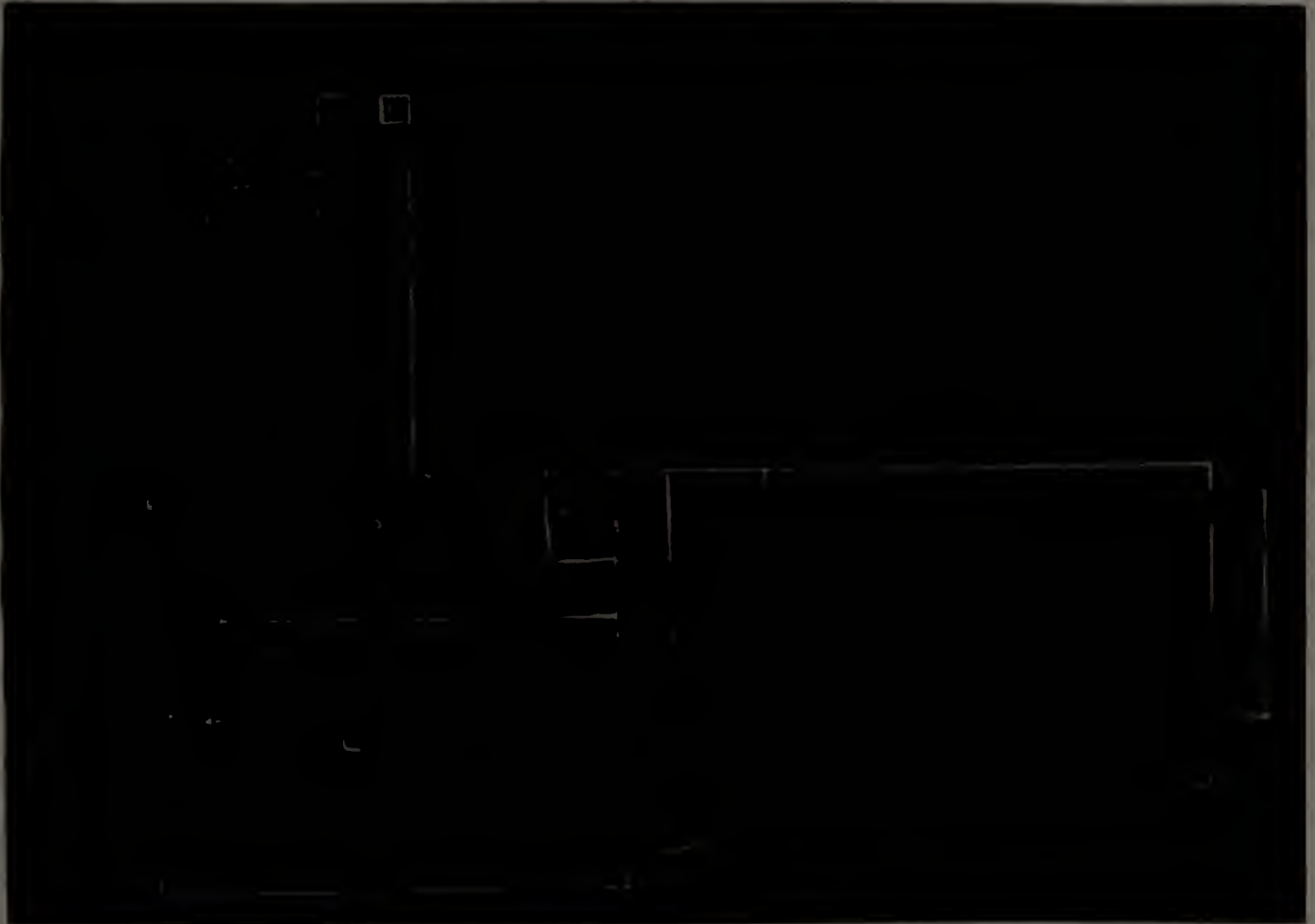


PLATE IV

Sub-level Floor Plan, Leverett Consolidated School

The shower, locker, and toilet rooms may also serve as dressing rooms. The unit is provided with a stage of ample size for elementary school and community use. The stage is provided with an entrance which does not require passing through the auditorium. The cafeteria is so located, that it may

serve as a dressing room or a make-up room. The floor of the auditorium is marked off for basketball and is provided with two regulation backboards, one being of the retractable type.

Although this unit was planned to serve school and community, there is not suitable provision for closing the unit off from the rest of the building. The unit, however, is zoned for heating and ventilating separately from the rest of the school. Special toilets for community or public use are not provided. There is no provision for spectator seating when used as a gymnasium. A storage room is provided at one end to accommodate athletic or staging equipment.

At present, the multi-purpose unit is being used as a temporary classroom. Plate V is a view of the classroom facilities provided there.



PLATE V

Temporary Classroom Facilities

The cafeteria is of sufficient size to accommodate a larger number of pupils than now enrolled, as scheduling of lunches can be carried on as it is even now without great difficulty. The cafeteria is located in such a manner that it is convenient for community as well as for school use. It is acoustically treated and there is no disturbance to classrooms during lunch time. There is a large area of windows on one side fitted with venetian blinds. The walls are of tile, clean and attractive. The kitchen is of ample size but lacks automatic dish washing equipment and a garbage disposal unit.

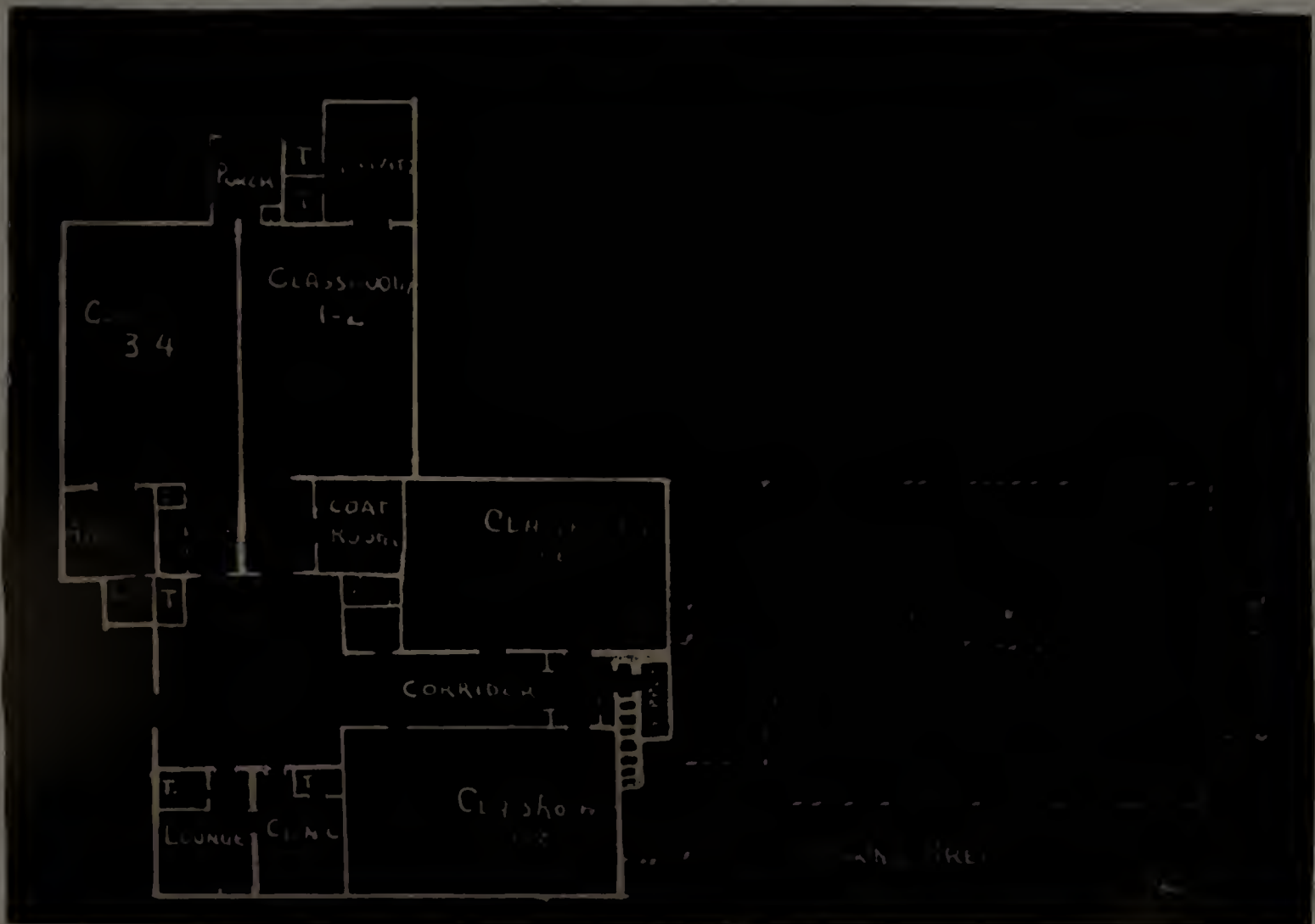


PLATE VI

Main Floor Plan, Leverett Consolidated School

A teachers' room and clinic room suite, the location of which is shown in Plate IV on the preceding page, also serves as the administrative suite. The teachers' room is provided with attractive furnishings: maple type sofa, chair, desk, arm chair, rug, and drapes for windows. Toilet and washing facilities are provided. The clinic room is furnished with a medicine-first aid cabinet, a metal cot of hotel folding type with springs and mattress. The clinic room also serves as a work area and is provided with desk and chair, filing cabinet, typewriter, spirit process duplicating machine, mimeograph duplicating machine, and a paper cutter. Toilet and wash facilities are also provided for this room. A school vault, in another location, is within reasonable distance from the clinic room.

Construction Costs -- A view of the present school is shown in Plate II on page twenty two of this study. The construction of this building was a great undertaking for a town the size of Leverett. An expenditure of \$201,203.93 was necessary to make these facilities available. Forty-nine percent of this sum, however, was reimbursed by the state. The various costs of constructing the present plant are tabulated in Table II on the following page.

It is said that a good building is economical. To some the above stated cost for a four classroom building may not be considered economical. However, one must realize that an economical school building does not mean a cheap school

TABLE II

Total Costs For Construction
Leverett Consolidated School

1. Building, General Contracts	\$169,437.02
2. Building, Special Contracts	4,361.12
3. Architectural-Engineering Fees	11,948.10
4. Equipment	11,117.92
5. Site Development	2,785.37
6. Cost of Land	1,250.00
7. Advertising and Financing Costs	304.40
Total Costs	\$201,203.93

building. In order to determine whether a building is economical, comparisons are often made as to costs data of other buildings. In Connecticut Builds Schools, a publication of the Connecticut Public School Building Commission, a compilation of school building data is presented.¹ Cost data on school building projects of Connecticut completed between January 1, 1949 and December 31, 1950 may serve as a basis for comparing certain phases of construction and costs of the Leverett Consolidated School, which was completed in the same period.

From the above table, the Architectural-Engineering Fees

1. Connecticut Builds Schools, January 1951, Public School Building Commission, Hartford, Connecticut, pp.vii-viii

for the Leverett construction were calculated to be approximately 5% of the total cost; for Connecticut the average costs for the same fees were approximately 6% of the total costs. The Leverett costs for equipment amounted to approximately 5% of the total costs, and the average costs for Connecticut were approximately 6% of the total costs. The Leverett costs for site development are only about 1% of the total costs whereas the Connecticut average was 4% of the total costs. With due regard to the many variables involved in such a comparison, it is reasonable to assume that Leverett costs were at average or below average expense level in so far as construction service and equipment are concerned.

In a survey conducted by Harmon and Viles,¹ Massachusetts was grouped in the the Upper Atlantic States area with Connecticut, Delaware, Maryland, New Jersey, New York, Pennsylvania, Rhode Island, and Washington D.C. on the basis of geography, construction practices, and price levels. On the basis of information from the above survey and the available Leverett data, a comparison of various average costs data commonly used in building analysis or planning is possible. This comparison is presented in Table III on the following page. Although the Leverett School is of Fire Resistive Construction, the Semi-Fire Resistive Construction and the Com-

1. School Life, Vol.36, No.3, December 1953, "What Does A School Building Cost", Harmon and Viles

TABLE III

Average Costs of Elementary School Construction

Classification	Leverett	Mass.	Region
<u>Fire Resistive Construction</u>			
Ave. Cost per square foot	\$12.72	\$18.79	\$15.12
Ave. Cost per classroom	\$50,301	\$43,164	\$31,720
Ave Gross floor area/class	3,954	2,295	2,097
<u>Semi-Fire Resistive Construction</u>			
Ave. Cost per square foot		\$17.67	\$14.02
Ave. Cost per classroom		\$36,127	\$26,833
Ave. Gross floor area/class		2,043	1,913
<u>Combustible Construction</u>			
Ave. Cost per square foot		\$16.45	\$14.05
Ave. Cost per classroom		\$29,361	\$26,469
Ave. Gross floor area/class		1,784	1,883

bustible construction costs are also included in the tabulation for further comparison.

In the above table, the average costs are based on the total cost of the present school plants. Leverett costs per square foot compare favorably with those of Massachusetts and the region comprising the Upper Atlantic States. The Leverett costs for this classification are less even when compared with less desirable type of construction. However,

the average costs per classroom are considerably more for Leverett than for Massachusetts or the Upper Atlantic States Region. This may be explained some what by the fact that the average square feet of building gross floor area per classroom is greater for Leverett than for Massachusetts or the Upper Atlantic States Region. This may tend, at first, to indicate poor design, but actually points out the communities desire for a school which would serve the needs of the educational program desired. This program is one which is to serve community as well as school needs. Thus, instead of one multi-purpose room to function as a cafeteria-auditorium-gymnasium, the community required a cafeteria and a separate gymnasium-auditorium which led to increased gross floor area per classroom and consequently a greater than average cost per classroom.

On the basis, then, of the number of square feet of school constructed, the Leverett Consolidated School may be considered economical when the average costs per square foot are taken into consideration. On the basis of fulfilling the needs and the desired program, it may be stated that the Leverett Consolidated School is an economical school. If the facilities cannot be used for the desired activities due to the unpredicted large enrollment, then the school tends to become an expensive school. An area designed for use as an auditorium-gymnasium becomes an expensive classroom when converted to such use and a serious curtailment of the desirable educational program may result.

CHAPTER IV
POPULATION TRENDS

CHAPTER IV

POPULATION TRENDS

General Nature of School Community -- Leverett, Massachusetts, approximately 90 miles west-north-west of Boston is situated between Amherst, Montague, Sunderland, Wendell, and Shutesbury. It is located close enough to the Connecticut River to have the advantages of the fertile lands of the Connecticut River Valley in the western section of the Town. The Town also extends east into the more rugged, hilly, terrain which is typical of this area. Thus Leverett has its share of fertile meadows and high hills, winding brooks and streams which present agricultural and commercial possibilities, today as in the past, and offer at the same time the beauty of rural country.

The Town, divided by hills, poor network of roads, separate post offices, two different telephone exchanges necessitating a long distance call from one part of town to another, has several villages which results in a certain degree of rivalry between the sections of the Town. The various villages or sections of the Town are referred to as Leverett or the Center, North Leverett, Moores Corner, East Leverett, and Long Plain or the Plain. Each of these areas has been served by a district school in the past. Each of these areas clings to certain isolating characteristics which will be modified more and more until the inevitable unifying changes have come about.

Leverett is governed under the open town meeting plan,

with three selectmen supervising town business during the year, and three members of the school committee overseeing school functions. There is no uniformed police or fire-fighting force, but an active volunteer fire department is constantly increasing its efficiency and protection services to the town.

Leverett is typical of New England towns wherein farming tends to be difficult, due to rugged New England farming conditions. However, tobacco, cucumbers, potatoes, milk, maple syrup, eggs, and chickens are typical agricultural products of this town. The production of lumber, pulp wood and charcoal rank as the major industries of the town.

As there is little industry within the boundaries of Leverett, the people for the most part are commuters. The majority of the professional workers live in the south section of the Town. These include university and college professors, high school teachers, university students, ministers, merchants, artists, aviators, business managers and others. Skilled laborers are to be found throughout the Town. The University of Massachusetts and Amherst College, which are within five miles of the Town, have served and do serve an important role in providing employment for the Leverett citizens.

The dwellings of Leverett are almost entirely of the one family design. Approximately six houses have been remodeled to accommodate two families. There are no tenements or apartment houses in the Town. There are at least two

families living in trailers. The construction of new homes is increasing in Leverett as in many other communities, but no large housing developments have been planned for this community. Other structures in Leverett, other than barns and sheds, are four general stores, two churches, five abandoned schools, two libraries, and one Town Hall.

Motor vehicles, improved roads, rural electrification, the telephone, motion pictures, radio and television, mechanization of agriculture, modern merchandizing methods, and the decentralization of industry are reshaping life in rural communities throughout the country. These forces are creating some new communities and causing others to wither and die.¹ They tend to expand each community in area and reshape the life within the community. They are bringing the people of each town or village and its surrounding trade area closer together, increasing human contacts, stimulating group meetings, changing existing social institutions, and creating demands for community organizations and for community services such as education, health, and recreation.

That these forces are reshaping life in Leverett is obvious. The degree to which these forces are at work in Leverett must be studied and the future direction of their results will be considered before a solution to the problem of

1. Planning Rural Community School Buildings, Frank W. Cyr et als, Bureau of Publications, Teachers College, Columbia University, N.Y., XII

increased enrollment is stated.

Population -- An analysis of the population of Leverett reveals an interesting pattern of growth and decline. The following table shows the change in population from 1790 to 1955.

TABLE IV

Population; Leverett, Massachusetts

Year	Population	Year	Population	Year	Population
1790	524	1865	914	1910	728
1800	711	1870	877	1915	779
1810	769	1875	831	1920	695
1820	857	1880	742	1925	664
1830	939	1885	779	1930	677
1840	875	1890	702	1935	726
1850	921	1895	744	1940	688
1855	982	1900	744	1945	594
1860	964	1905	703	1950	791
				1955	845

From the first census year in 1790, a steady increase in population may be noted with one period of decrease before the census of 1855 at which time the population of Leverett was at its all-time high. The year of maximum population of 982 in 1855 was followed by years of unsteady but generally diminishing population to a low of 594 in 1945.

The 1945 state census revealed the lowest ebb in population for Leverett except for the first census year at which time the population numbering 524 was slightly less. During the five years following the 1945 census, the population increased to such an extent that it is, except for the latest 1955 census, the highest census recorded for Leverett since 1875, a period of 75 years.

This study does not propose to present the reasons for the changes in population during the history of the Town of Leverett, for to do so would necessitate the inclusion of data which is far beyond the scope of this study. However, in order to better understand the forces effecting the present population and those likely to effect the future population, a generalization concerning the probable influencing factors of the past may be of value.

The early settlers of Leverett found a land which provided lumber for their homes and other needs, many clear springs for their water needs, land which could provide them with their necessary foods and which was suitable for the raising of livestock. Rivers and streams provided them with power to run their gristmills and sawmills. These characteristics of the area attracted other settlers who were seeking a homestead. Although the first phase of the Industrial Revolution had already begun in England, its effects were slow to reach this nation. The domestic system of manufacture was to continue well into the 19th century. The peo-

ple of early Leverett worked at manufacturing goods in their homes and in a number of small shops which had been established. A large percentage of this manufacturing was within the domestic system in which an entrepreneur distributed the raw materials to be manufactured into finished products. Others manufactured many items such as wood products and leather goods from raw materials available locally. Thus, early and mid 19th century Leverett was able to provide homes and means of livelihood for more people than in later periods, and as a result, the population grew until 1855, the peak year.

The industrial revolution began to effect communities such as Leverett before the Civil War. The rapid development of the factory system in the United States soon began to replace the domestic system and the small shop system of manufacturing. The use of the steam engine meant a gradual obsolescence of water power such as that produced by the rivers and streams of Leverett. As it was apparent that the factories were not coming to Leverett, the people of Leverett went to the factories. The westward migration was participated in by many who lived in this area. A period of depression beginning in 1880 brought many back to the farm, but this growth was short lived as the economy of the nation improved. By 1890, the population of Leverett had receded to 702 in the brief period of 35 years from the maximum population year.

A period of increased immigration of Europeans to the United States and the added effect of a depression in 1907 and 1914 led to the increased population of 779 in the year 1915. The period after World War I led to a decline in population, which was 115 less in 1925 than in 1915. As Leverett seemed to grow during each depression, the depression which began in 1929 brought about a short lived growth in population and the rapid decline which followed led to a loss of 132 in the short period from 1935 to the close of World War II and resulted in the extremely low census year in which only 594 people were counted.

During the years following World War II to 1950, the population of Leverett increased from 594 to 791. By 1955, it had reached a population of 845. Although there are many possible factors involved in a consideration of the cause of this recent growth, certain trends are noticeable.

Many of the townspeople of Leverett carry on part time farming while maintaining a full time position in neighboring communities. This is not unusual, but is a definite trend throughout the country. To farm, apparently is a natural desire, and the relatively inexpensive machinery now available for small farms helps to make this desire possible. In addition, electrification has been extended to the farm community. Transportation facilities have been improved to such an extent that commuting becomes less tiring and much faster. More and more people are traveling greater and greater distances to their places of employment, and such is

the case in Leverett. Because of these and other factors, more people are moving to urban and rural areas, and more people are moving to Leverett than ever before. The lack of public transportation facilities in Leverett has ceased to be the great disadvantage that it once was, as the use of the private automobile has become the usual means of transportation even in communities which provide public transportation systems. One factor which must not be overlooked, is the significant increase in population of Leverett which has resulted from the growth of the University of Massachusetts, in neighboring Amherst, Massachusetts.

Births and Deaths -- A closer analysis of the population trends in the past twenty years must take into consideration a study of effects of births and deaths on the population of Leverett. The number of births and deaths listed in the records of the Town Clerk of Leverett are tabulated in Table V on the following page.

Table V lists the births and deaths beginning with the year 1935, a high population year for Leverett in this century. It is also a year in which the birth rate of the entire country was at its approximately lowest point in the 20th century, being 18.7 live births per thousand population with the lowest rates of the century at 18.4 in the years 1933 and 1936. A comparison of births and deaths for the period 1935-1939 for Leverett reveals that there was an excess of six deaths over births in that period. This is

TABLE V
Births and Deaths

Year	Births	Deaths	Difference	Year	Births	Deaths	Difference
1935	12	11	1	1945	13	14	-1
1936	10	18	-8	1946	14	11	3
1937	12	9	3	1947	20	11	9
1938	12	9	3	1948	21	11	10
1939	10	15	-5	1949	24	12	12
1940	10	9	1	1950	25	15	10
1941	23	14	9	1951	28	13	15
1942	12	8	4	1952	14	7	7
1943	13	9	4	1953	28	8	20
1944	12	12	0	1954	17	16	1

understandable and may have been common for many communities especially when the birth rate of 18.7 per thousand for the United States in 1935 is compared to the birth rate of 29.5 per thousand for the United States twenty years previous. A decrease of six in the population as a result of a greater number of deaths than births only helped to reduce a population which was moving to other areas. In the next five year period, 1940-1944, the population decreased at an even greater rate although there was a gain of 18 in the number of births over deaths.

For the entire period beginning in 1935 and ending in

1944 there was only an excess of 12 births over deaths. The rebirth of the national economy could account for further loss in the population of Leverett due to the attractions of steady income in the cities where job opportunities were available once again. This loss was accelerated as defense work began and evolved into war work after the entry of the United States into World War II, with its resulting needs of the armed forces for man power.

Following World War II, there was a sharp increase in the number of live births in the United States. Although the war ended in 1945, the majority of veterans were not able to return until some time in 1946. The number of live births in the nation reached the three millions mark in 1946, for the first time since 1921 except for the war babies of 1943. By 1947 almost one million more live births were reported for the nation than in 1945. This same trend may be noted in the Leverett births, wherein the live births for 1945 number 13 but for 1947 they number 20, which is higher than any previous year tabulated. During the period from 1945 to 1954 there were 86 live births in excess of deaths listed as compared to 12 for the previous ten year period.

Housing Construction -- An important factor in the study of population trends is that concerned with new housing construction. The number of dwellings assessed and the increase in dwellings over the previous year for the base period 1934 to 1955 are presented in Table VI which follows.

TABLE VI

Number of Dwellings Assessed and Annual Increase
for the Period 1934 - 1955

Year	Dwellings	Increase	Year	Dwellings	Increase
1934	189	-	1945	208	5
1935	197	8	1946	209	1
1936	195	-2	1947	210	1
1937	200	5	1948	212	2
1938	199	-1	1949	218	6
1939	205	6	1950	224	6
1940	191	-14	1951	231	7
1941	206	15	1952	237	6
1942	191	-15	1953	241	4
1943	203	12	1954	246	5
1944	203	0	1955	252	6

The number of dwellings assessed between the years 1934 and 1943 fluctuated greatly. The reason for this fluctuation could not be given by the present chairman of the board of assessors. It was assumed that the number of dwellings assessed varied from year to year because of variations in criteria as what constituted a dwelling in the eyes of the various assessors during this period, rather than an actual fluctuation in the numbers of dwellings as shown up to 1945.

The figures for the period beginning in 1945 should prove to be more reliable to the extent that the membership of the board of assessors was more constant during this time, and the criteria as to what constitutes a dwelling would vary less in this period.

Disregarding fluctuations from year to year, it is noted that there was a net increase of 14 dwellings for the ten year period ending with the 1944 assessment, whereas there was an increase of 43 dwellings for the ten year period ending with the 1954 assessments, or more than three times the amount of construction in the second period as there was in the first. For the five assessment years beginning in 1945 and ending in 1949, there was an increase of fifteen dwellings, and during the next five assessment years, the number of new assessments totaled 28 or almost double that of the first five years. It may be pointed out that the years of low rate of construction, 1946-1948, in the last ten years, were years in which there was a scarcity of building materials and priority regulations.

In 1945 there were 2.8 residents per assessed dwelling in Leverett. In 1950 there were 3.8 residents per dwelling. Births would account for only half of this increase, thus, it may be assumed that the remaining increase was due to families moving into homes that were empty, individuals moving in with families already established in the community, and/or larger families moving into homes left by smaller

families. However, it is obvious that there was ample housing for growth in population. In 1955, there were 3.3 residents per dwelling. Birth rate could not account for this change. A reasonable explanation would be that a large proportion of the homes constructed after 1950 were constructed by individuals already residing in the Town.

In consideration of the above, it would appear that continued increase in population of Leverett depends to a greater extent now on new construction than it did in earlier years. It is apparent, however, that the rate of construction has remained reasonably constant since 1949, and there is little cause for a decrease. On the contrary, there may be a decided acceleration in home construction due to the limitations of the Veterans Act which must be taken advantage of within the next few years. Of more importance than ever will be the birth rate which has also been reasonably constant since 1947 and which shows indication of increasing.

Amherst Growth -- In a survey made by the Amherst School Planning Board in 1950,¹ it was noted that the major growth in Amherst is in the North Amherst area. This area borders Leverett on the southwest. In 1950, alone, at least twice as many homes were constructed in the North Amherst area

1. The Work of the Amherst School Building Needs Committee and The Attempt to Form A Regional School District, Porter, J.B., Problem Thesis for Master of Science Degree, University of Massachusetts, Amherst, Massachusetts, p.38, 1952

than in any other section of Amherst. Amherst is growing, and the only way it can expand is by moving further out. That movement seems to be in the direction of North Amherst. It seems reasonable to assume that in addition to the number of factors which favor growth in the Town of Leverett, growth which is expected in North Amherst will ignore town lines and create further growth in Leverett.

Future Predictions and Trends -- The problem of determining whether the trend toward growth in recent years would continue was taken up by the Sub-committee concerned with Future Predictions and Trends. A report of this committee, of which the author was a member, is presented herein.

"School planning must, of necessity, take into consideration not only the status of school facilities, but also the direction of community change. The study of the community when determining future plans has proven its value beyond all doubts. Communities grow or decline as living things. The fact that Leverett will either grow or decline can hardly be denied. However, the educational system can keep pace with community change only if the direction of change can be determined.

Factors Which Influence the Potential Growth or Decline of A Community: Although a variety of factors influence growth or decline of a community, the major determinants include the following:

1. Employment opportunities;

2. Cost of renting or owning a home;
3. School opportunities for children;
4. Character of home environment;
5. Distance to work place in minutes of commuting time;
6. Potential increase in housing facilities.

Employment Opportunities: Leverett is a residential area with little industry within the town. The majority of the working population is employed in other towns. An estimated one third of the working population is employed at the University of Massachusetts in Amherst. This is an increase of 100% of the number of Leverett residents employed at the University in 1945. A peak of 10,000 enrollment at the University is expected to be reached by 1965 and it is very likely that in the next five to ten years the number employed there from Leverett will be doubled.

Commuting Time to Neighboring Communities: Leverett is within 10 or 15 minutes commuting time from Amherst and approximately 30 minutes from Greenfield or Northampton. This commuting time compares favorably with more heavily populated areas wherein commuting distances may be shorter, but the commuting time is often longer.

Cost of Renting A Home: The cost of renting a home in Leverett is much lower than it is in the larger communities in this area. The lower rents in Leverett could be an attraction to people moving into the area.

Trend in Housing Construction: The number of dwellings

assessed in 1945 was 208, in 1954 it was 246. Six new homes have been completed since January 1954 assessment. There are five under construction at the present time. Five or more new homes a year have been under construction since 1948. There has been an increase of 13% of dwellings assessed since 1945.

Possibilities of Increase in Housing Facilities: An unlimited expansibility of housing is possible in Leverett. The extent of this expansion depends to a great degree upon the amount of land made available for building lots by the present owners and the cost of such land.

Social-Recreational Opportunities: The citizens of this community have made up for the lack of recreational facilities by organizing a large number of social organizations for children and adults.

Effect of Increased School Opportunities: The present school has had an attracting influence rather than a deterring one on people moving into Leverett. This attracting influence will continue if provision is made for the resulting increase in population.

Conclusions: The determining factors indicate continued growth for Leverett. That Leverett is a good town in which to work or live is evident by the phenomenal growth in population which has been taking place in the past few years. The population of Leverett in 1945 was reported as 594, in 1950 it increased to 791. There is every indication that

the peak population of 982 reached in 1855 will be surpassed in the next decade. The costs of owning or renting a home in Leverett compares favorably with other localities and new construction has been constant since 1948. There are few indications of decrease in rate of new construction and many factors which could bring about an increase. The availability to large population areas and employment indicate that Leverett is a suitable residential area. The grades 1-8 enrollment in 1960 can conservatively be expected to be more than double the 111 enrollment of 1950 as a direct result of expected growth of Leverett."

CHAPTER V
SCHOOL ENROLLMENT

CHAPTER V

SCHOOL ENROLLMENT

Basis for Projecting Enrollment -- One of the most important factors in the study and planning of a long range school housing program is the expected future enrollment. Future enrollment stands out in importance because of the recent increases in school population and because of the resulting pressure upon existing school plants. A highly accurate anticipation of future enrollment is difficult to attain. However, a valid indication of future growth is possible for a few years in advance of actual future needs. Achieving this, anticipation of school building requirements may be made.

Prediction of future enrollments must of necessity be based upon known facts of existing conditions with due regard to the possible change in these conditions. The factors which are especially applicable are population trend, births, and past school enrollments. The population trend has been considered in Chapter IV of this study. An analysis of births and past school enrollments is included in this chapter.

Births -- Children are present in Leverett because of two facts:

1. They are born in Leverett and remain there,
2. They move into Leverett before or after school age.

The birth rate, then, and the migration gain or loss determine the enrollment. Changes in these effect changes in enrollment. The direction of the changing conditions may be determined with due regard to risks inherent in any prediction.

In the table below are listed the number of births recorded in the records of the Town Clerk of Leverett for the twenty year period beginning in 1935.

TABLE VII

Leverett Births

Year	Births	Year	Births
1935	12	1945	13
1936	10	1946	14
1937	12	1947	20
1938	12	1948	21
1939	10	1949	24
1940	10	1950	25
1941	23	1951	28
1942	12	1952	14
1943	13	1953	28
1944	12	1954	17

An analysis of the Leverett births during the twenty year period tabulated above reveals a decided increase in the annual birth rate. During the period from 1935 to 1944, there were 126 births recorded. During the period from 1945 to 1954, there were 204 births recorded. This is an increase of more than 160%. In the five year period following 1935, there were 56 births recorded. During the next five years beginning in 1940 there were 70 births recorded. This increased to 92 in the period from 1945 through 1949. Moreover, from 1950 to

the close of 1954 there were 112 births recorded. It may be noted that during this latter five year period, there were almost twice as many births recorded as during the five year period beginning in 1935. This increase is not due merely to an increase in population, as analysis reveals a definite increase in birth rate during the twenty year period under consideration.

A comparison between the number of births in a given year and the number of children entering grade one after a period of six years is of value in a study such as this. The basic statistics required in such a comparison are presented in Table VIII below.

TABLE VIII

Comparison of Births and Grade One Enrollments

Birth Year	School Year	Births	Grade One Enrollment	Gain
1939	1945-46	20	23	3
1940	1946-47	10	14	4
1941	1947-48	23	18	-5
1942	1948-49	12	16	4
1943	1949-50	13	17	4
1944	1950-51	12	13	1
1945	1951-52	13	21	8
1946	1952-53	14	22	8
1947	1953-54	20	28	8
1948	1954-55	21	24	3

The difference between the total number of births and the total of grade one enrollments for the period considered in Table VIII is 38 children. Of this difference, 25% or nine may be attributed to retardation, the balance of 29 or approximately 75% of the total gain may be attributed to the migration gain. It is evident that an increase in births per year has led to an increase in grade one enrollments. A significant part of this increase is due to migration gain. The grade one enrollment for a given year may not be accurately stated as the number of births six years previous without modification.

Census of Pre-School Children -- A census of pre-school age children was desirable in order to more accurately predict the future grade one enrollments. This census was made under the direction of the School Building Needs Survey Group, the work of which is taken up in Chapter VII of this study.

The pupils of grades seven and eight of the Leverett Consolidated School served as census takers for the census of pre-school age children. All pupil activities were supervised by the author. The pupils began their preliminary planning on November 17, 1954. An analysis of the problem was made by the class and the area of the Town was divided into four sections. Each section was assigned to a census team headed by a team leader, who coordinated activities within the section. The team leaders conferred with each other to insure complete coverage of the Town. A pupil chairman served to help coordinate all activities involved in the taking of the census

and in the tabulation and analysis of information obtained. Poor weather and a school holiday tended to limit the degree of the analysis and study.

Forms were completed by 73 parents or guardians. The names, ages, and dates of birth of 126 children were recorded on these forms. Forms were not completed by an estimated seven families in time for the report to the School Building Needs Survey Group. However, the names and ages of the pre-school children of these families were obtained indirectly. Thus the total number of families recorded is 80 and the total number of children recorded by census is 138. The average number of children recorded on the basis of the 73 families contacted directly is 1.72 pre-school children per family. The average number of pre-school children recorded on the basis of the 80 families contacted directly or indirectly is also 1.72 pre-school children per family.

The following is a tabulation of the information obtained by the census teams.

TABLE IX

Census of Pre-School Children, November 30, 1954

Birth Year	Children	Birth Year	Children
1949	25	1952	21
1950	20	1953	28
1951	28	1954	16

The information obtained by a census of pre-school children may be used to predict the grade one enrollments for the next six school years.

Past School Enrollments -- In order to determine the expected future enrollments for the grades beyond grade one, an analysis of past enrollments is necessary. Table X on the following page lists the past enrollments for grades one through eight for the years 1935 to 1955.

The projection of future enrollment based upon past enrollment and the pre-school census may be made by means of the percentage of survival technique. In the analysis of the past enrollments, the number of children in grade two in a given year is taken as a percentage of the number of children in grade one the previous year. This is done for each year of the given period. Similarly, the number of children in each successive grade is expressed as a percentage of the number of children in the prior grade during the previous year. Each percentage is termed percentage of survival. When this is done for each year throughout the designated period, an arithmetical average is taken of all the percentages of survival from grade one to grade two, grade two to grade three, and so on to the desired grade levels. These average percentages of survival are then applied in sequential order to enrollments beginning with grade one enrollments.

The projection of enrollments by the percentage of survival technique is dependent upon two assumptions:

TABLE X

Leverett Elementary School Enrollments

School Year	1	2	3	4	5	6	7	8	Total
	grades								
1935-36	15	14	22	17	11	10	13	13	115
1936-37	14	16	13	17	19	14	9	11	113
1937-38	13	16	11	17	10	17	14	10	108
1938-39	9	16	11	15	14	16	17	16	114
1939-40	14	11	14	13	14	11	14	14	105
1940-41	11	15	14	16	13	13	13	13	108
1941-42	17	12	10	13	13	14	14	11	104
1942-43	14	18	12	8	14	14	11	13	104
1943-44	13	20	13	14	10	12	14	12	108
1944-45	14	13	15	11	12	11	9	13	99
1945-46	13	13	12	13	12	10	11	9	93
1946-47	14	13	15	17	12	13	12	9	105
1947-48	18	13	10	14	15	11	12	9	102
1948-49	16	16	13	10	14	13	12	9	103
1949-50	17	15	17	15	13	16	12	13	118
1950-51	13	18	10	14	15	13	16	12	111
1951-52	21	13	20	9	14	15	13	13	118
1952-53	22	16	13	17	9	15	17	12	121
1953-54	28	22	12	13	19	12	16	19	141
1954-55	24	28	21	16	19	18	11	17	154

1. The number of children born in a given year and re-

siding in Leverett at the time of the census will be the same as the number of children with the same birth year who will be enrolled in grade one after a given lapse of time.

2. The children in grade one may be expected to move to grade two the following year, to grade three the next year, and so on through the rest of the grades.

The enrollments presented in Table X were analyzed in the manner stated and the average percentages of survival were determined for the various levels. These average percentages of survival are listed in Tables XI below for the base period 1935-1955. In addition, there are listed the average percentages of survival for the progression from birth to grade one and for the ten year periods 1935-1945 and 1945-1955 for comparison.

TABLE XI

Average Percentages of Survival

Grade Progression	1935-1945 Percentage	1945-1955 Percentage	1935-1955 Percentage
Birth - 1	113.9	130.8	123.2
1 - 2	111.4	94.4	103.0
2 - 3	85.9	94.0	89.9
3 - 4	104.6	102.8	103.7
4 - 5	91.5	107.8	99.6
5 - 6	105.9	102.9	101.9
6 - 7	95.0	102.5	98.8
7 - 8	95.8	93.1	94.5

Variations in the percentages of survival are due to a number of factors which include variations in migration, retardation, and school drop outs in upper grades.

Projected Enrollment -- Table XII below, shows the number of pupils that may be expected to be in each grade for several years in the future provided conditions which did exist in the Town during the base period continue to exist, as noted in the basic assumptions for this method.

TABLE XII

Projected Enrollments

[illegible]

The predicted enrollment for 1955-56 is an estimate derived from an annual pre-registration of pupils in May for the following September. The average percentages were applied to the 1955-56 expected enrollments in order to derive the projections listed. The projected enrollment is a conservative estimate based upon the number of children residing in Leverett at the time of the projection. The result is considerably less than the projection which would have been obtained if the average percentage of survival from birth to grade one had been used as a basis for projection. Nevertheless, there is every indication that the increased enrollment which has presented a problem is not a temporary situation, but will apparently continue and spread to all grades under consideration. In September 1955, the increased enrollment which has led to the need for an extra teacher for grades one and two will have extended to grades three and four. The same wave of enrollment will reach grades five and six in September 1957 and grades seven and eight in September 1959 if the present conditions continue as indicated.

CHAPTER VI

FINANCIAL STATUS OF LEVERETT

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FINANCIAL STATUS OF LEVERETT

In a survey of school housing needs, the desirable school program must be given due consideration. All phases of the study must be analyzed in the light of the educational aspects involved. However, before a final, practical long range plan is formulated, the fiscal potential and status of the Town must be considered a determining factor. An analysis of the financial status of Leverett will indicate the ability of this Town to provide the financial support necessary for carrying out any long range plans which may be formulated. The willingness of a community to provide the necessary financial support can only be surmised. In this chapter, the fiscal potential of Leverett in relation to its school housing needs will be analyzed. Consideration will be given to the taxable wealth of the Town, Bonded indebtedness, and State or Federal Aid, in addition to other factors which may have a bearing on this particular phase of the study.

Taxable Wealth -- The taxable wealth of a community is of prime importance in an analysis such as this. The assessed valuation of property indicates the financial strength of the Town. The total assessed valuation consists of the sum of the total building valuation and the total land valuation, which together make up the total real estate valuation, plus the total personal property valuation. The assessed valuations for the past ten years are presented in Table XIII which follows on the next page.

TABLE XIII

Assessed Valuations: Town of Leverett, 1945-54

Tax Year	Total Buildings Valuations	Total Land Valuations	Total Real Estate Valuation	Total Personal Property Valuation	Total Assessed Valuation
1945	\$182,155	\$130,870	\$313,025	\$181,808	\$494,833
1946	183,930	128,725	312,655	191,900	504,555
1947	215,930	148,325	364,255	194,458	558,713
1948	332,645	149,835	482,480	208,775	691,255
1949	339,145	141,895	481,040	195,029	676,069
1950	404,140	151,890	556,030	197,710	753,740
1951	430,130	150,324	580,454	193,616	774,070
1952	444,214	150,086	594,300	193,085	787,385
1953	453,770	148,605	602,375	196,714	799,089
1954	466,250	148,550	614,800	199,282	814,082

The total assessed valuation increased by \$319,249 during the period 1945-1954. This increase of approximately 65% was due largely to the \$301,775 increase in total real estate assessed valuation. The total personal property valuation increased slightly but was irregular during the period under consideration. The 1954 assessed valuation of personal property is only slightly greater than that of 1934. Irregular tendencies may be noted in the total land valuations during this period. The total land valuation for 1954 is slightly less than the land valuation for 1934. Total land valuations

and total personal property valuations remain relatively constant. The greatest gains then have resulted from increased building valuations, and it may be assumed that as buildings are constructed and existing buildings improved the greatest gains will continue to be in this category.

The extent to which the property of Leverett has been taxed is revealed in Table XIV which lists the tax rates during the period from 1935 to 1954.

TABLE XIV

Tax Rate - Town of Leverett - 1935 to 1954

Year	Tax Rate	Year	Tax Rate
1935	\$36.50	1945	\$50.00
1936	45.00	1946	45.00
1937	35.00	1947	62.00
1938	38.00	1948	55.00
1939	34.00	1949	54.00
1940	41.00	1950	62.00
1941	45.00	1951	62.00
1942	45.00	1952	67.00
1943	43.00	1953	65.00
1944	48.00	1954	65.00

During the period considered in Table XIV, the tax rate of Leverett has been maintained at a relatively high level. The tax rate ranges from a low of \$34.00 in 1939 to the high of \$67.00 in 1952. It is interesting to note, that even in

1934, a depression year, the tax rate was \$44.00. Although the tax rate has been at times the highest in the state, the assessors have carried out the policy of maintaining low assessments on property and real estate. An analysis of the individual assessments on dwellings, for 1954, reveals that more than half the buildings classified as houses were assessed for \$1500 or less. Cottages and camps were not tabulated in the analysis, but all were assessed for less than \$1000. Of houses assessed, more than 25% were assessed for \$1000 or less. Less than 25% of the houses were assessed for \$2000 or more.

A comparison of the average building valuations per dwelling assessed since 1945 suggests that a general increase in assessments have taken place from 1945 to 1951. The increase from year to year of total building valuation from 1951 to 1954 appear to result almost entirely from new construction rather than general increase in assessments. The annual increase in total building valuation during this latter period is at the rate of approximately \$2400 per additional dwelling assessed. It appears that the assessed valuations listed by the board of assessors for dwellings constructed between 1952 and 1954 are approximately 20% of actual or real present valuations. It is customary in many communities to assess dwellings at 75% of real valuation or selling price. A change in policy of the board of assessors could result in a great apparent increase in the total assessed valuation of Leverett with little real increase in value.

Town Expenditures -- Although an analysis of the taxable wealth of a community presents an indication of the fiscal strength of the community, an analysis of the town expenditures is desirable in order to modify previous indications. A comparison of total town expenditures and total expenditures for school maintenance are presented in Table XV. The total property tax raised each year of the period considered in the table below is included, as the net cost of operation is indicated by these figures.

TABLE XV

Leverett Expenditures

Year	Total School Expenditures	Total Town Expenditures	Total Property Tax
1945	\$20,084.24	\$61,817.99	\$25,176.15
1946	21,505.24	69,348.26	20,695.32
1947	22,067.70	79,167.55	35,572.56
1948	22,920.25	89,134.91	38,349.35
1949	26,593.04	131,513.28	37,024.18
1950	32,326.00	117,067.12	37,143.88
1951	35,490.08	131,017.57	53,882.73
1952	33,090.87	131,731.43	53,177.61
1953	38,571.72	137,674.28	52,332.87
1954	47,549.35	134,495.21	58,310.11

Total school expenditures listed in Table XV do not include expenditures for construction or debt retirement. In

the period from 1936 to 1945, school expenditures had increased approximately 45%, but in the ten year period compared, 1945 to 1954, school expenditures increased 137%. The greatest increase in school expenditures has occurred since 1949. During the same period, 1945-1954, total town expenditures increased 118% and total property tax increased 132%. It is interesting to note that although total school expenditures increased approximately the same ratio as total town expenditures and total property tax, the total school expenditures per pupil increased only 45% during the period. This was an increase from \$160.67 per pupil in 1945 to \$231.94 per pupil in 1954.

Further comparisons of total town expenditures and total school expenditures reveal that school expenditures comprised an average of 28.41% of town expenditures in the period from 1935 to 1954, and 28.04% in the period from 1945 to 1954. Thus, although the total school expenditures had increased by 137% in the ten year period beginning in 1945, the ratio of school expenditures to town expenditures has remained relatively constant. It is interesting to note that the average net cost to the town for school expenditures comprised approximately 31% of the total property tax for the period 1945 to 1954.

Bonded Indebtedness -- The total net funded debt, as of December 31, 1954 of the Town of Leverett was \$106,000. The entire debt is of the non-self-liquidating type. Of this amount, \$105,000 represents the outstanding indebtedness on

the present Leverett Consolidated School which was completed in 1950. Municipal bonds amounting to \$140,000 were issued in 1949 for the necessary school construction. This debt is being paid at the rate of \$7000 a year. In 1951, an additional issuance of bonds valued at \$2500 was made in order to purchase an emergency power unit for Civil Defense purposes. This debt is being paid at the rate of \$500 per year, and will be retired in 1956.

The available borrowing capacity of Leverett is calculated by taking 5% of the average assessed valuation on real, personal, and automobile properties for the preceding three years, and deducting the amount of the current non-self-liquidating debt. Computation reveals that Leverett is currently \$64,923 beyond the legal debt limit, with approval of the state legislation. Thus, it is apparent, that special legislation by the General Court will be necessary to finance any new or additional school construction at this time.

State Aid -- The amount of financial assistance which Leverett receives from the state for the operation of schools is based upon the following provisions:

1. State Aid Bill - Chapter 70, to provide reimbursement based on the amount of money appropriated by the town and the number of pupils attending school.

2. All money appropriated for transportation less \$5 per pupil is reimbursed to the town by the state.

3. The state pays the tuition for any state wards who attend school in Leverett.

The average reimbursement received by Leverett during the period from 1950 to 1954 amounts to approximately 52% of the total school expenditure. This reimbursement is large as a result of the advantages given to small towns and to towns of low valuation by the formula used to determine reimbursements under Chapter 70, and because a major part of the total school expenditures of Leverett is due to transportation costs which are largely reimbursed by the state.

State aid for school construction is provided by virtue of the School Building Assistance Law of 1948. The state will provide an annual payment of a fixed percentage of the initial bonded indebtedness to a town to finance school building projects which are approved by the commission. The town must pay for all interest charges on such loans. For local construction by a single town, the state support ranges from 20% to 50%. For regional school construction by a group of towns, the state support ranges from 35% to 65%. The state provided for 49% of the initial debt incurred as a result of the construction of the present Leverett Consolidated School. Any new or additional construction by the Town of Leverett which meets the approval of the commission will be supported at approximately the same rate by the state.

CHAPTER VII

WORK OF THE SCHOOL BUILDING NEEDS SURVEY GROUP

CHAPTER VII

WORK OF THE SCHOOL BUILDING NEEDS SURVEY GROUP

Background -- The Leverett School Committee, in its annual report for the year ending December 31, 1953, brought the problem of increasing enrollment to the attention of the citizens of Leverett by noting the increase in the proposed budget for 1954 due principally to the following:

"a. An increase of from 38 to 50 pupils in the room for the grades 1 and 2, thus making it advisable to provide a teacher for each of these grades.

b. An increase of 9.4% in the overall cost of the new three-year bus contracts. There was a small extension of the routes and each carrier was obliged to provide greater bus space in order to accommodate the greater numbers of pupils attending both the primary and secondary schools.

c. An increase of 8.8% in tuition. This is due to increased numbers of secondary school pupils, as well as raising in tuition rates at the Amherst Junior and Senior High Schools."

Mr. William J. Edgar, Superintendent of Schools, in his annual report for 1953 pointed out, "The overcrowding of grades one and two was taken care of this year by the introduction of two teachers in this room. ... However, this arrangement does not solve the problem because as this large enrollment moves to the next room, it creates a similar problem. I recommend that a survey of the school situation and its needs be undertaken."

The author, in his annual report of the principal for 1953, repeated the problem of increased enrollment. "The year 1953 brought about an increased enrollment which resulted in a very overcrowded classroom for pupils of grades one and two. Although another classroom was not provided, the services of another teacher were made available in order to lessen the educational disadvantages brought about by the large enrollment. The problems brought on by abnormally large enrollment, although difficult, are not unique to Leverett, since many other localities with new schools have faced this same situation. It is apparent that the bulge of the present enrollment will continually be passed along through the grades, and the trend is toward increasing enrollment at all levels."

The citizens of Leverett were advised by the 1954 School Report that the "major concern during the past year was the continued increase in the numbers of children of school and pre-school age in Leverett. The former resulted in a further crowding at the elementary school and a formidable increase in secondary school tuition costs: the latter led to intensive studies of future needs."

Organization -- As the crowded classroom conditions became more acute, the School Committee and the Superintendent of Schools agreed that positive steps should be taken toward the satisfactory solution to the problem. The School Committee was induced to place the various aspects of school

planning upon a broader basis, by extending its contacts with the citizens of Leverett. In October 1954, the School Committee invited some town groups to select representatives to meet with the School Committee and Superintendent, thus to form an unofficial school planning committee here-in referred to as the School Building Needs Survey Group or School Survey Group.

It was the intention of the School Committee and the Superintendent that the School Survey Group would consist of a comparatively small number of definitely interested individuals in order that a more efficient group would result with a possible accelerated plan of attack. A survey of the problem had already been initiated by the author, and as the School Committee and Superintendent were aware of the progress of the survey, it seemed likely that the materials prepared previous to the organization of the School Survey Group would help to facilitate the work of the group.

The School Building Needs Survey Group consisted of representatives of the Selectmen, the Assessors, and the Parent Teachers Association combined with the School Committee and the Superintendent of Schools. The members of this group are listed in Table XVI which is presented on the following page.

Initial Meeting -- The first meeting of the School Survey Group was held in the Leverett Consolidated School on November 9, 1954. Dr. Carl S. Roys was elected chairman

TABLE XVI

The School Building Needs Survey Group

Name of Member	Group Represented
Mrs. Carol Blinn	Parents; P.T.A.
Mr. Francis G. Ciarfella	Teachers; P.T.A.
Mr. William J. Edgar	Superintendent
Mr. Carlyle Field	Assessors
Mr. Richard L. Glazier	Parents; P.T.A.
Mr. Wayne Howard	Selectmen
Mrs. Eleanor Kamys	School Committee
Mrs. Frances King	Parents; P.T.A.
Mrs. Clifford LaClaire	School Committee
Dr. Carl S. Roys, Chairman	School Committee

of the group, Mr. Richard L. Glazier was elected recording secretary, and Mrs. Eleanor Kamys was elected corresponding secretary. Dr. Roys explained the purpose of the group and the nature of the problem under consideration.

Mr. William J. Edgar, who served as educational adviser, spoke of the value of long range planning and a projection of enrollment to at least 1960. A census of pre-school children was suggested. It was agreed that the author would be responsible for the census and that the pupils of grades 7-8 would be utilized in this assignment.

The discussion which followed was based on the premise that the pre-school census would reveal a definite trend toward continuing crowded conditions. Consideration was given to the possibility of eliminating the problem by September 1955. It was noted that one of the most important deliberations would be that concerned with alternate plans. The following alternate plans were offered by the group.

1. Double Session;
2. Four room addition to provide one classroom for each of grades 1-8;
3. Two room addition and joining a 7-12 grade regional school so as to provide one room for each of the remaining grades;
4. Modification of the present storeroom, cafeteria and/or gymnasium to provide additional classrooms;
5. Acquire town offices, located in school, for classroom use;
6. Remove wall between clinic room and teachers room to provide classroom space;
7. Use stage as classroom;
8. Use other town buildings for classrooms.

A discussion of each alternative plan was begun at this meeting and continued to the next meeting. The advantages and disadvantages which suggested themselves were listed. Those considered as the most likely alternative plans are:

- A. Double Session:

1. Advantages:

- a. inexpensive
- b. high reimbursement on transportation
- c. immediate operation possible

2. Disadvantages:

- a. involves added transportation
- b. upsets family program
- c. educational soundness questioned
- d. pupil fatigue
- e. unfinished work by pupils
- f. too early rising
- g. curtails lunch program

B. Addition of two rooms:

1. Advantages:

- a. immediate and long range advantage
- b. possibility of one grade per room
- c. town will receive more reimbursement
- d. educationally sound

2. Disadvantages:

- a. cost \$50,000 - \$55,000
- b. town already has debt on present building
- c. may not be ready by September 1955
- d. effect on tax rate

C. Modification of Storeroom:

1. Advantages:

- a. meets immediate needs

b. cost estimated to be \$5,000

2. Disadvantages:

- a. no natural lighting
- b. need for sound proofing
- c. need for finish work
- d. extension of heating system required
- e. inadequate ventilation
- f. no state aid
- g. another storage area will be required
- h. meets immediate needs only

D. Modification of Auditorium-Gymnasium:

1. Advantages:

- a. room for two classrooms
- b. use of movable partition possible

2. Disadvantages:

- a. partition cost may be \$3,000- \$4,000
- b. heating problem
- c. town social activities would suffer
- d. limits school activities
- e. lighting problem
- f. no state aid

The remaining time of the meeting was spent in giving consideration to the long range plan which may serve the school and community. Discussion resolved itself to three possibilities.

The first possibility was to convert to a 1-6 grade

system with one grade per room, and to take part in a regional group for grades 7-12. This plan would require the addition or the availability of two or more classrooms. It was pointed out that grades 7-8 pupils could not be sent to the schools of another town on a tuition basis except on a temporary emergency measure.

The second possibility was to add four rooms and continue on a grade 1-8 basis with grades 9-12 remaining on a tuition basis to Amherst or New Salem.

The third possibility was to add four rooms and continue on a grades 1-8 basis and to take part in a regional group for grades 9-12.

Meeting of November 16, 1954 -- During the meeting of November 16, 1954, census forms were passed out and discussion of their completeness and use followed. It was decided to publish the announcement of the planned census in the newspapers serving this area in order to inform the parents of the groups plans.

Consideration was given to the need for further detailed investigating and reporting of various aspects of the overall problem. The sub-committees which were appointed to investigate specific areas are:

1. Sub-committee to investigate alterations to the present school building,
2. Sub-committee to investigate additions to the present school building and use of other town buildings,

3. Sub-committee to present future predictions and trends,
4. Sub-committee on public relations,
5. Sub-committee on pre-school census.

The regional school plans which were being considered in the neighboring communities were discussed. Mr. Edgar read a letter concerning the Amherst-Pelham Regional School plans. It was noted that the Regional Committee of Leverett would have to act within the next six weeks, before the contract is awarded in Amherst, if Leverett wished to enter the region before construction was begun on the high school.

Meeting of November 30, 1954 -- The report of the Sub-committee on pre-school census was presented at this meeting, and is reproduced in Chapter V of this study.

Mr. Edgar reported to the group that he had been informed by Mr. Marshall that the same reimbursement would be granted to Leverett for an addition as was granted for the original building, namely 49%.

Dr. Roys reported on the effect a \$50,000 expenditure would have on the tax rate of Leverett. At an assumed payment rate of \$1,275 principal per year for twenty years, and the initial interest payment \$500 at 1% interest, then the tax rate would increase \$2.22 per \$1,000 assessed valuation. The tax rate for the same amount but at .5% interest would be \$1.91 per \$1,000 assessed valuation, or an average of \$1.59 increase per \$1,000 assessed valuation over a twenty year period.

Report of Alterations Sub-Committee -- Mr. Howard presented an oral report of the findings of the Sub-committee to investigate alterations to the present school building, of which a summary follows.

The cost of installing partitions in the cafeteria for classroom use and remodeling the store room for use as a cafeteria would be from \$2,000 to \$3,000. This would provide one classroom in place of the present cafeteria. The additional cost for electrical work necessary was estimated to be \$1,000. The estimate would not include any additional costs for chalkboards, bulletin boards, or any other equipment which would be required.

The approximate cost of remodeling the auditorium for classroom use was placed at \$7,500. This cost was considered too great for value received. The heating problem is difficult to overcome and would be extremely expensive before satisfactory results could be expected. Heat loss is great in this area, and this would be a definite disadvantage. The present lighting facilities are inadequate for classroom use.

The committee suggested that of the two possibilities considered, it would be more feasible to use the storeroom after modification as a cafeteria and partition the present cafeteria so that it may serve as two classrooms. The reporting committee noted that this would only serve in a temporary nature and the adequacy of the size of the resulting classrooms in the cafeteria was questioned.

Mrs. Kamys presented a brief report of the activities of the Leverett Regional Planning Board. A discussion followed concerning the possibility of sharing facts, figures, findings, or other information with the Leverett Regional Planning Board, as the two studies revolved about similar axis and an understanding of the complete planning program was necessary to both groups.

The report of the Sub-committee on future predictions was presented during this meeting, and is summarized in Chapter IV, Population Trends, of this study.

Meeting of December 14, 1954 -- The Regional School Planning Board met with the School Building Needs Survey Group. Mr. Bernhard Dirks, architect of the present school, was present at the request of the School Survey Group. Discussion of a proposed addition to the present school followed. Mr. Dirks thought it might be possible to have an addition to the present building completed by September 1955. Preliminary plans of a two room addition to the present school building were presented by Mr. Dirks, who consented to prepare them at the request of the Sub-committee to investigate addition to the present school building. Mr. Dirks estimated that the cost for the proposed two room addition would be \$50,000 - \$60,000, which was approximately the estimate made at an earlier meeting by the School Survey Group.

Conclusions Resulting from the Meetings -- As a result of this and earlier meetings, the School Survey Group con-

cluded that the construction of a two room addition would best serve the needs of the community and the school. A recommendation was made by the group, stating that a special town meeting should be held early in January 1955 in order to appropriate funds for an addition soon enough to allow for possible completion of construction of a two classroom addition by September 1955.

The addition of the two rooms appears to be the most economical long range plan and the most satisfactory educationally. The success of this plan is dependent upon the entrance or acceptance of Leverett into the Amherst-Pelham Regional School District. It is the conclusion of the group that the regional plan, in a sense, pays for itself when present and future tuition costs are taken into consideration.

The possibility of adding four rooms and continuing a grades 1-8 school is not recommended due to educational disadvantages and limitations, and excessive costs of construction due to limitations of the present heating plant.

Remodeling of the present structure is not recommended. Remodeling costs to the present structure would amount to approximately \$10,000 and no state aid would be available to the town for such construction.

It was further recommended that the chairman of the two major committees, namely: the School Building Needs Survey Group and the Leverett Regional Planning Board, meet to coordinate plans for the presentation of the facts and recom-

mendations to the citizens of Leverett, and to insure the inclusion of the necessary articles in the next town meeting warrant.

CHAPTER VIII

INVESTIGATING AND BUILDING COMMITTEE

CHAPTER VIII

INVESTIGATING AND BUILDING COMMITTEE

Formation of the Committee -- As a result of the work of the School Building Needs Survey Group, necessary steps were taken to insure the presentation of an article in the warrant of a town meeting less than two weeks after the final meeting of the Survey Group so that the citizens of Leverett would have an opportunity to vote for or against the formation of an Investigating and Building Committee.

Thus, at the Special Town Meeting of December 23, 1954, the townspeople of Leverett voted "to instruct the Moderator to appoint five persons, one of whom shall be a member of the School Committee, to serve as an Investigating and Building Committee for addition or alteration to an elementary school. Said Committee to have a report ready to present at the next annual town meeting."

The Moderator advised the clerk that he had appointed the following committee:

Chester S. Woodard
Wayne A. Howard
Carl S. Roys
Elmer C. Osgood, chairman
John D. Swenson

Two of the members of this committee had served as members of the School Survey Group, and one of the members had served as a member of the Leverett Regional School District Planning Committee. Thus, it could be assumed that the Investigating and Building Committee at the time of its appointment was already enlightened to a considerable degree

as to the work of the School Survey Group and the Regional School Planning Committee. It could be further assumed that a policy of immediate action would continue and the instruction "to have a report ready to present at the next annual town meeting" would be carried out, although the time available for the preparation was a little more than one month.

The committee was able to meet a number of times to review information already obtained, consider conclusions already reached, make any further investigations necessary, meet with the architect, confer with the Superintendent of Schools, form its own conclusions or recommendations, and prepare a report for presentation at a public open meeting and at the annual town meeting.

Report of the Investigating and Building Committee -- At the Annual Town Meeting of February 12, 1955, under Article 22 of the town meeting warrant, it was voted to hear the report of the Investigating and Building Committee which follows:

The Committee has investigated the necessity for additional class room space and has found there is a real need for a classroom per grade. This means the provision in some way of four new classrooms.

This committee has considered alterations to the present building as well as additions thereto. It is convinced that alterations to provide classroom space will be makeshift, un-

satisfactory, and relatively costly to the town. An addition of more than two rooms to the present building will require additional heating facilities. The committee also believes that the best and least costly solution to the overall school problem for the Town includes the joining of the Amherst-Pelham Regional School District. Doing this will relieve the necessity of providing at the elementary school two of the four additional rooms needed.

The committee therefore recommends the building of two additional classrooms with necessary facilities at the north end of the present building. Preliminary plans for such an addition have had tentative acceptance by the State Building Commission.

It is estimated that the total cost of such an addition will not exceed \$60,000. It is proposed to borrow money on a plan similar to that used for the present school, which money is to be paid back with the assistance of the state, over a period of twenty years.

The above report, as read by Dr. Osgood, was accepted by vote of the meeting. In addition, under Article 23 of the Town Meeting warrant it was further voted "to raise and appropriate the sum of \$60,000 for addition and alteration to the present school building." This article was not considered to be sufficient or satisfactory by many, but was voted upon positively in order to make evident the will of the meeting. At a later Special Town Meeting of April 12, 1955

the above vote was rescinded and the following vote was voted under Article (of that meeting, "Voted that the sum of \$60,000 be raised and appropriated for the purpose of constructing an addition to the present elementary school building and for originally equipping and furnishing said addition and that to meet said appropriation the sum \$1,015 be appropriated from the sale of real estate fund; the sum of \$220 be appropriated from the post war rehabilitation fund; the sum of \$98.62 be appropriated from the balance in the school construction account; the sum of \$1,666.38 be appropriated from the overlay surplus account; and the sum of \$7,000 be appropriated from available funds in the treasury; and the treasurer with the approval of the selectmen be and hereby is authorized to borrow the sum of \$50,000 under authority of Chapter 645 of the Acts of 1948 as amended and to issue note of the town therefor payable in accordance with the provisions of Chapter 44 of the General Laws, so that the whole loan shall be paid in not more than 20 years from the date of issue of the first note."

A complete report of the progress of this committee to the final stages of construction of the proposed addition is not within the scope of this work. However, it is normal for a number of special town meetings to be held for the purpose of completing all the legal transactions necessary for construction. It appears at this writing that an article will be necessary authorizing the Investigating and Building Com-

mittee to enter into all necessary contracts to carry out construction, furnishing, and equipping of the proposed addition. At this writing, the final plans are near completion and preparations are being made to present these plans for bid by construction contractors.

CHAPTER IX

REGIONAL SCHOOL PLANNING

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REGIONAL SCHOOL PLANNING

As Leverett is a town which has no high school within its borders, the educational needs of the secondary school pupils of Leverett are served by Amherst High School, Amherst Junior High School, and New Salem Academy. Although this study has been concerned with elementary schools of Leverett for the most part, attention must be given to the secondary school needs in order to help assure successful long range planning. This chapter presents a summary of the planning and consideration given to regionalization in the interests of the educational needs of the secondary school pupils of Leverett.

Regional Planning Board of 1951 -- On May 29, 1951, a Regional School District Planning Board was appointed in Amherst, and on June 6, 1951, similar boards were appointed in Pelham and Hadley. At a special Town Meeting, held on August 25, 1951, Leverett voted to accept a proposal made by the Town of Amherst to join a planning board to form a regional school district. The approval of the voters led to the formation of the Leverett Regional Planning Board of 1951. The Board originally consisted of five members, but was later reorganized as only three members were to actively participate.

It was the work of each planning board or planning committee to meet with other planning boards, or planning committees, from other towns for the purpose of arriving at an agreement. This agreement was to be concerned with the formation of a

Regional School District at the secondary school level.

The following boards were appointed by their respective communities:

Leverett

1. Mrs. Varnum J. Abbott
2. Mrs. Julian W. Rice
3. Dr. Elmer C. Osgood

Hadley

1. Earnest W. Hibbard
2. Edwin M. Podolak
3. William E. Dwyer

Pelham

1. Grace C. Kimball
2. Eugene Ward
3. Marie K. Yegian

Amherst

1. Peter J. Coyne
2. Arnold D. Rhodes
3. Robert E. Brown

The Amherst and Pelham boards held several meetings together and then invited the School Committees of Leverett, Shutesbury, and Sunderland to attend meetings and discuss prospects of entering a regional school district. The initial meetings of the regional boards listed above were held in Amherst on 27-31 August 1951. The Amherst and Pelham representatives presented a history of the development of the regional school plan and of the planning board to Leverett and Hadley and other representatives at these meetings.

Discussion of figures which were made available on the comparative costs of the various combinations of the different towns entering the district took place at a meeting on September 5, 1951. The figures showed that a combination of Amherst-Pelham-Leverett would make possible at that time a 42.89% state aid with Amherst paying 92% of the costs, Leve-

rett 3% and Pelham 5%.

The board planned a draft agreement which was to be considered by the voters of the participating towns. At a meeting of September 13, 1951, it was agreed that the towns decide at the next meeting whether they wished to enter an agreement. At the next meeting, which was held on September 20, 1951, only Amherst and Pelham decided to go ahead with plans. Several factors led to this decision.

1. Leverett had not appointed a planning committee that met the standard qualifications under the General Laws and the Amherst-Pelham Planning Board felt the bond issue would not be approved if they attempted to enter a region with such a committee.

2. The boards from Amherst and Pelham desired an acceptance or rejection of the plan by the voters of the various towns not later than November 1, 1951.

3. Mr. John Marshall, Chairman of the School Building Assistance Commission at Boston, suggested that it might be better to immediately organize a nuclear regional unit consisting of Amherst and Pelham as this would expedite the formation of a regional school district which could eventually include neighboring towns in the Amherst-Pelham area.

Amherst, on December 7, 1951, voted against accepting the proposed agreement for the establishment of a regional school district of Amherst and Pelham. The agreement was accepted, however, by the Pelham voters on the same date. As

acceptance by both towns was necessary, the plan could not become effective.

At the annual Town Meeting of Leverett on February 2, 1952, a report was presented by the Leverett Regional Planning Board of 1951. The report stated that the board had met with Amherst from August 27, 1951 to September 27, 1951 for six meetings. It was further reported that Amherst and Pelham had decided to attempt the region alone, and membership with Leverett was dissolved. With the acceptance of this report, the work of this committee was completed.

Leverett Regional School District Planning Committee --
Plans for participating in a region were set aside until the activity which either continued or developed in neighboring communities caused the interest which was latent in Leverett to stir and become kinetic. The result was the approval of the formation of a regional school district planning board in Leverett at a special Town Meeting of November 13, 1954. Under Article 4, it was voted to instruct the moderator to appoint three persons, one of whom shall be a member of the School Committee to serve as an unpaid board in compliance with sections 14-16 of the General Laws as amended by Chapter 638 of the Acts of 1949 said committee to be known as the Leverett Regional School District Planning Committee. The moderator appointed the following board:

1. Mrs. Eleanor H. Karys, chairman
2. Mr. James P. Reed
3. Mr. John D. Swenson

This regional school district planning board took the necessary steps to investigate the various regional plans being formulated in neighboring communities, attended meetings with other planning boards, and also met with the group investigating the elementary school housing needs.

A forum was held on December 20, 1955, at the Leverett Consolidated School, to which all interested voters of Leverett were invited. The preliminary report of the Leverett Regional District Planning Committee was presented and discussed at this forum.

This report presented the recommendations and considerations of the planning committee, based upon information obtained from conversations with representatives of neighboring towns, state officials, and the school superintendent. It was further reported that the planning committee had investigated various regional groups including the Amherst-Pelham Regional School System; Orange-Erving-New Salem Group; the Conway-Deerfield-Sunderland-Whately Group; and had considered the possibility of a region within the present school union consisting of the towns of Erving, New Salem, Shutesbury, Wendell, and Leverett.

The advantages of a junior-senior high school were presented. These advantages include:

1. The consolidation of the 7th and 8th grades in a regional school would help solve the elementary school housing problems of Leverett by releasing one room in the already

overcrowded elementary school.

2. It would provide a better educational program:

- a. By handling of the grade 7-8 students in a regional school it will enable them to compete educationally on even terms with children from larger schools.
- b. The pupils will have the advantages of a broader and more complete educational program both academically and vocationally at substantially less cost than the present tuition rates.
- c. It provides the opportunities for guidance which are so necessary for youngsters of the junior high school age and are impossible to have in a small school.
- d. The students would have the instructional advantages of the most modern type of equipment.

3. Regionalism provides for local ownership and control:

- a. It abolishes high tuition payments to schools in which we have no representation.
- b. It eliminates the need for depending on neighboring communities to educate our children. It provides for local ownership and control through representation from the town on the regional school committee.
- c. Larger school systems are able to attract and hold teachers of excellent training.

- d. It eliminates the possibility of our students being barred from enrollment in the neighboring high schools because of high enrollments of students from towns with regional membership.
- 4. Regionalism provides additional financial benefits:
 - a. It provides up to 100% reimbursement on transportation.
 - b. It provides an additional reimbursement on Chapter 70 funds. The additional reimbursement based on the 1953 reimbursement would be \$1,349.
 - d. It provides for lower construction costs as the state aid for regionalism ranges from 35% to 65%, whereas for individual towns it ranges from 0% to 50%.
 - e. It reduces the operating costs because of a more efficient teacher load, class size, and the greater use of facilities.
 - f. The annual operating cost per pupil under the Regional School Plan has been estimated by the state to be \$285.00.

The Committee pointed out that the Regional Junior-Senior High School system would provide better educational opportunities at a lower cost per pupil. The Committee requested authority to take steps necessary to insure admittance into the school region of the voters choice.

At the special Town Meeting of Leverett on December 23, 1955, it was voted to petition Amherst-Pelham Regional School District to allow Leverett to be admitted to the district. The Town of Shutesbury at an earlier date had also voted to petition for membership in this district.

It was necessary to amend the Amherst-Pelham agreement in order to admit either or both towns of Leverett and Shutesbury to the region. The Amherst-Pelham Regional District School Committee submitted the proposed amendments to the bond counsel for approval, and in turn approved the proposed amendment by the necessary two-thirds vote.

It then became necessary for the Town of Amherst and Pelham to approve the proposed amendment at their annual town meetings. It was also necessary for Leverett as well as Shutesbury to vote to accept the Amherst-Pelham agreement and the proposed amendment at their annual town meetings. In order to assure proper procedure and in order to avoid any possibility of errors, omissions, or illegal actions which might jeopardize the educational program of either or both the Amherst-Pelham Regional School District or the petitioning towns of Leverett and Shutesbury, legal counsel prepared suggested articles for the town meeting warrants of the participating towns. The articles were amended in such a manner that if either or both the towns of Leverett or Shutesbury accepted or rejected the plan, a regional group consisting of the approving towns could continue to function.

Each participating town, at its regular town meeting in 1955, approved the necessary articles and ammendments. Thus, there now exists the Regional School District comprising the towns of Amherst, Leverett, Pelham, and Shutesbury, and which will serve the educational needs of the junior-senior high school pupils of the member towns.

CHAPTER X

SUMMARY AND CONCLUSIONS

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SUMMARY AND CONCLUSIONS

Introduction -- During the first half of the twentieth century, the elementary school pupils of Leverett were housed in one and two room school buildings which had been constructed before the turn of the century. Although the townspeople had been urged to construct a modern school, no positive action was taken until the construction of the present Leverett Consolidated School, which was completed in 1950. This school houses grades 1-8, and the pupils of grades 9-12 attend either the Amherst High School or New Salem Academy on a tuition basis.

By 1953, an unforeseen increase in enrollment had caused serious overcrowding in the new elementary school. This study was initiated with the following objectives.

1. To help bring to the attention of the community the serious problem of overcrowding which faces them and to awaken them that action may be begun within the community and by the citizens of the community.

2. To make available information, facts, and findings, which could be of value to any group appointed or elected to make a study of the problem.

3. To determine the solution or solutions to the problem.

Present School Plant -- The present school plant is a modern structure ideally suited for 111 pupils. It consists of four classrooms, a cafeteria, an auditorium-gymnasium, and an administrative-health unit. The playground is adequate

for a much larger enrollment than presently housed.

Remodeling of the auditorium, cafeteria, or other parts of the building for classroom use is considered economically unsound. A four room addition could not be served by the present heating and other service units. The addition of two rooms appears to be the most economical long range plan and the most satisfactory educationally. This plan, however, is dependent upon the entrance of Leverett into the Amherst-Pelham Regional School District.

Population Trends -- The 1945 state census revealed the lowest ebb in population for over 150 years of the history of Leverett. During the five years following the 1945 census, the population increased to such an extent that it is, except for the latest 1955 census of 855, the highest census recorded for Leverett since 1875.

Following World War II, there was a sharp increase in the number of births in Leverett. During the period from 1945-1954 there were 86 live births in excess of deaths listed as compared to 12 for the previous ten year period.

There has been a significant increase in population of Leverett as a result of the growth of the University of Massachusetts. Further growth of the University will effect further increase in the population of Leverett.

The rate of construction of new homes has been reasonably constant in Leverett since 1949. Unlimited expansibility of housing is possible in Leverett.

There is every indication that the peak population of 982 reached in 1855 will be surpassed in the next decade.

School Enrollment -- The ideal enrollment of 111 pupils occurred only in 1950, the first year in which the Leverett Consolidated School was in operation. The enrollment increased steadily to the overcrowded conditions and the 154 pupils enrolled in 1954. A conservative estimate places the 1960 enrollment at 189 pupils. If the present practice of housing two grades in each of the four classrooms continues, the excessive enrollment of approximately 50 pupils in the grades 1-2 classroom will be repeated in the grades 3-4 classroom by September 1955. The excessive enrollment will reach the grades 5-6 classroom by 1957 and the grades 7-8 by 1959. There is every indication that the increased enrollment is not a temporary situation, but as it progresses from grade to grade, will remain reasonably constant in each grade.

Financial Status of the Town -- Leverett has maintained a low assessment of property rate and a high tax rate for many years. The total assessed valuation increased from \$494,833 in 1945 to \$814,082 in 1954, an increase of approximately 65%. The tax rate has ranged from a low of \$34 in 1939 to the high of \$67 per \$1,000 assessed valuation in 1952. More than half the buildings classified as housed were assessed for \$1500 or less in 1954. The average assessed valuations for dwellings constructed between 1952 and 1954 appear to be only approximately 20% of real valuation.

Total school expenditures and total town expenditures have increased at approximately the same rate. The school expenditures have averaged 28.04% of total town expenditures during the period from 1945 to 1954.

The present bonded indebtedness of Leverett, amounting to \$106,000, is beyond the present debt limit of the town. Special legislation by the General Court is necessary to finance new or additional school construction.

Leverett has the advantage of high reimbursement from the state for the operation of its schools, or for any approved school construction which it finds necessary to make.

On the basis of 1954 valuation, the tax rate increases by \$1.23 for each \$1000 expended as actual cost to the Town. For each \$1000 expended for school construction, the state will reimburse the Town \$490. For each \$10,000 of twenty-year serial bonds at 2 3/4% interest, the total tax rate for the first year would increase \$.953. For school construction totaling \$60,000, the total tax increase for the first year would amount to approximately \$2.86 per \$1000 valuation.

Work of Committees -- A School Building Needs Survey Group was organized in October 1954 under the leadership of the School Committee. This group investigated the problem under consideration, made recommendations, informed the public, and made the necessary preparations so that immediate action could be taken by the townspeople toward a satis-

factory solution. This group concluded that the construction of a two room addition would best serve the needs of the community. This group favored entrance of Leverett into a regional high school district.

The Leverett Regional School District Planning Committee was appointed by vote of the Town Meeting of November 1954. This planning board took the necessary steps to investigate various regional plans being formulated in the neighboring communities, attended meetings with other planning boards, and also met with the School Building Needs Survey Group. The Planning Board recommended entrance into a regional junior-senior high school district. It requested authority to take the steps necessary to insure admittance into the school region of the voters choice.

Results -- As a result of the work of the committees, groups, and individuals concerned with school housing needs of Leverett, the objectives of this problem have been met. The citizens of Leverett, at a special Town Meeting of December 23, 1954, voted to appoint an Investigating and Building Committee for addition or alteration to an elementary school. This committee continued the investigation begun by the School Building Needs Survey Group and confirmed the reports and recommendations of the Survey Group. On the basis of the factors presented in this study the Committee recommended the building of two additional classrooms with necessary facilities at the north end of the present building.

Under Article 23 of the Annual Town Meeting of February 12, 1955, the sum of \$60,000 for this addition was appropriated. To meet said appropriation, the sum of \$1,015 was appropriated from the sale of real estate fund; the sum of \$220 was appropriated from the post war rehabilitation fund; the sum of \$98.62 was appropriated from the balance of the school construction account; the sum of \$1,666.38 was appropriated from the overlay surplus account; and the sum of \$7,000 was appropriated from available funds in the treasury. The treasurer was authorized to borrow the sum of \$50,000 and to issue notes of the town therefor.

At this writing, all preliminary preparations have been made, and bids will be accepted by the Committee on June 6, 1955. The bids will be opened by the Building Committee on June 10, 1955. A model of the Leverett Consolidated School with the proposed addition is presented in Plate VII below.



PLATE VII

Model of Leverett Consolidated School With Proposed Addition

At the regular town meeting in February 1955, it was voted to enter the Regional School District comprising the Towns of Amherst, Pelham, Shutesbury, and Leverett. This regional school will serve the needs of the junior and senior high school pupils of the participating towns. Upon completion of the regional school, in 1956, the pupils of grades 7-8 which are now served by the elementary school will attend the regional school. At that time, the Leverett Consolidated School will then be reorganized to serve only grades 1-6, with each classroom housing a single grade. Thus, the final step of this stage of the long range planning for Leverett Schools will take place in 1956.

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Approved by:

Problem Committee

Date:
